91-1705

No.____

Supreme Court, U.S.
FILED
APR 27 1992
OFFICE OF THE CLERK

IN THE

SUPREME COURT OF THE UNITED STATES

October Term, 1991

JACOB H. MALTA, *et al.*,
Petitioners

v.

SCHULMERICH CARILLONS, INC., *et al.*,
Respondents

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR WRIT OF CERTIORARI

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QUESTIONS PRESENTED FOR REVIEW

1. Whether entering JNOV based on retroactive application of new procedural case law, handed down seven months after the verdict, violates the Fifth Amendment right to due process of law and the Seventh Amendment right to trial by jury?

2. Whether entering JNOV for alleged failure to present "particularized testimony" on the infringement-dispositive fact issue conflicts with this Court's decision in *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 85 USPQ 328 (1950), reh. den. 340 U.S. 845 (1950), holding that proof of infringement can be made by any relevant evidence?

3. Whether the decision of the Court of Appeals for the Federal Circuit, construing Federal Rule of Civil Procedure 50 in direct conflict with controlling precedent of the Court of Appeals for the Third Circuit, presents a split between circuits requiring resolution by this Court?

LIST OF ALL PARTIES TO THE PROCEEDING

Parties to this proceeding whose names do not appear in the caption on the cover of this petition are Malmark, Inc.,[1] a plaintiff and a petitioner herein; The Handchime Company, Ltd., a defendant not charged with patent infringement and Ronald O. Beach, a defendant not charged with patent infringement.

THIS PETITION

References in this Petition to the Appendix are designated by the upper case letter "A" followed by the relevant page(s) of the Appendix, e.g. A-21. References to the Exhibit Appendix are designated by the upper case letters "EA" followed by the relevant page(s) of the Exhibit Appendix. No brackets or parentheses are used.

1. Pursuant to Rule 29.1, there are no parent companies and no subsidiaries of any of the corporate parties to this proceeding. All of the corporate parties are privately held.

TABLE OF CONTENTS

Page

QUESTIONS PRESENTED FOR REVIEW..... i

LIST OF ALL PARTIES TO THE PROCEEDING. ii

TABLE OF CASES, STATUTES AND OTHER AUTHORITIES vi

OPINIONS BELOW..... 1

STATEMENT OF GROUNDS FOR JURISDICTION..... 2

CONSTITUTIONAL PROVISIONS, TREATIES, STATUTES, ORDINANCES, AND REGULATIONS INVOLVED IN THE CASE 2

STATEMENT OF THE CASE..... 3

REASONS FOR GRANTING THE WRIT..... 10

1. JNOV Based on Retroactively Applied New Procedural Case Law (Appearing Seven Months After Malta's Victory At Trial) Deprived Mr. Malta of His Fifth Amendment Right to Due Process and His Seventh Amendment Right to a Jury Trial..... 10

2. The JNOV Granted on the Basis that Malta Was Required to Prove Equivalents Infringement by "Particularized Testimony", Notwithstanding His Abundant Real and Demonstrative Evidence, His Comparative Demonstration of the Infringing Product and His Expert Testimony, Conflicts with This Court's Holding in *Graver Tank* That Proof of Equivalents Infringement Can Be Made By Any Relevant Evidence 16

TABLE OF CONTENTS – *(Continued)*

Page

3. The Conflict Between the Federal Circuit Majority's Application of FRCP 50 and Controlling Third Circuit Precedent Must be Resolved by this Court 19

CONCLUSION..... 22

APPENDIX:

Majority Opinion of the United States Court of Appeals for the Federal Circuit Dated December 26, 1991 Affirming Grant of JNOV A-1

Concurring Opinion of the United States Court of Appeals for the Federal Circuit Dated December 26, 1991..... A-18

Dissenting Opinion of the United States Court of Appeals for the Federal Circuit Dated December 26, 1991..... A-25

Order of the United States Court of Appeals for the Federal Circuit Dated January 27, 1992 Denying Petition for Rehearing..... A-56

Order of the United States Court of Appeals for the Federal Circuit (Undated) Declining Suggestion for Rehearing In Banc..... A-57

Dissenting Opinion of the United States Court of Appeals for the Federal Circuit (Undated) Respecting Denial of Rehearing In Banc..... A-58

Memorandum Opinion of the United States District Court for the Eastern District of Pennsylvania Dated 20 November 1989 in Support of Order Granting JNOV..... A-60

Order of the United States District Court for the Eastern District of Pennsylvania Dated 20 November 1989 Granting JNOV..... A-68

Page

Order of the United States District Court for the Eastern District of Pennsylvania Dated 21 November 1989 Reopening Judgment Previously Entered On the Verdict and Entering Judgment For The Defendant As If The Verdict Requested At The Close Of The Evidence Had Been Directed..... A-69

TABLE OF CASES, STATUTES AND OTHER AUTHORITIES

Constitutions: Page

United States Constitution, Fifth Amendment ... 2, 10

United States Constitution, Seventh Amendment .. 3

Cases:

Abraham v. Pekarski, 728 F.2d 167, 171 (3rd Cir. 1984), cert. den. Pekarski v. Abraham, 467 U.S. 1242 (1984) 20, 21

Digital Equipment Corp. v. Emulex Corp., 805 F.2d 380; 231 USPQ 779 (Fed. Cir. 1986) 21

Fonar Corp. v. Johnson & Johnson, 230 USPQ 105, 111 (D. Mass. 1986) 13

GTE Products Corp., et al. v. Kennametal, Inc., 772 F. Supp. 907 (W.D. Va 1991) 11

Graver Tank & Mfg. Co. v. Linde Air Products Co., 339 U.S. 605, 85 USPQ 328 (1950), reh. den. 340 U.S. 845 (1950) ..... passim

Lear Siegler, Inc. v. Sealy Mattress Co., 873 F.2d 1422, 1427, 10 USPQ2d 1767 (CAFC 1989) ..... passim

Nestier Corp. v. Menasha Corporation-Lewisystems Div., 739 F.2d 1576, 1579 (CAFC 1984) 11, 13, 14

Newell Companies, Inc. v. Kenney Manufacturing Company, 226 USPQ 157, 167 (D.R.I. 1985) .. 13

Newell Companies v. Kenney Manufacturing Co., 864 F.2d 757; 9 USPQ2d 1417 (Fed. Cir. 1988) 21

Panduit Corp. v. All States Plastic Mfg. Co., 744 F.2d 1564, 223 USPQ 465 (CAFC 1984) 21

Page

South Corp. v. United States, 690 F.2d 1368; 1215 USPQ 657 (Fed. Cir. 1982) 21

Sun Studs Inc. v. ATA Equipment Leasing Inc., 872 F.2d 978, 986, 10 USPQ2d 1338 (CAFC 1989)..... 13

Thomas & Betts Corporation v. Litton Systems, Inc., 220 USPQ 1 (CAFC 1983) 16

Statutes and Rules:

Federal Rule of Civil Procedure 50(a)..... 3

Other Authorities:

H.F. Schwartz, *Patent Law and Practice* (Federal Judicial Center, 1988)..... 14

Richard E. Wawrzyniak, *Proving Patent Infringement Under the Doctrine of Equivalents: The Specific Evidentiary Requirements for Getting to the Jury,* 55 Mo. L. Rev. 1105, 1114 (1990). 13

Address, Hon. Joseph J. Sarnan, Jr., United States District Court Judge, District of Delaware, Philadelphia Patent Law Association, Philadelphia, Pa., 21 November 1991..... 14

Patent Law Perspectives..... 14

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PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR WRIT OF CERTIORARI

Petitioners Jacob H. Malta and Malmark, Inc. (hereinafter "Malta") respectfully pray that a writ of certiorari issue to review the decision and judgment of the United States Court of Appeals for the Federal Circuit entered on 26 December 1991.

OPINIONS BELOW

The majority, concurring and dissenting opinions of the Federal Circuit, dated 26 December 1991, officially reported at 952 F.2d 1320 (Fed. Cir. 1991) are in the Appendix beginning at page A-1.

A petition for rehearing was denied 27 January 1992; the order denying the petition is set forth in the Appendix at page A-56.

A suggestion for rehearing *in banc* was denied 9 March 1992. The order of the Court of Appeals denying the suggestion for rehearing *in banc* is in the Appendix at page A-57. The dissenting opinion respecting denial of rehearing *in banc* is in the Appendix at pages A-58 and A-59. The opinion has not, to date, appeared in the Federal Reporter.[2]

The opinion of the district court, which is not reported in the Federal Supplement but is reported at 13 USPQ2d 1900 (E.D. Pa.), is in the Appendix beginning at page A-60.

STATEMENT OF GROUNDS FOR JURISDICTION

The judgment of the Federal Circuit was entered 26 December 1991. A petition for rehearing was denied 27 February 1992. The suggestion for rehearing *in banc* was denied 9 March 1992.

This Court has jurisdiction to review the judgment in question by writ of certiorari under 28 U.S.C. §1254(1).

CONSTITUTIONAL PROVISIONS, TREATIES, STATUTES, ORDINANCES, AND REGULATIONS INVOLVED IN THE CASE

Fifth Amendment

> No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life,

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2. The decision denying the suggestion for rehearing *in banc*, and the opinion dissenting therefrom, is available at 1992 U.S. App. Lexis 3864.

liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation. U.S. Const. Amend. V

Seventh Amendment

In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by jury, shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law. U.S. Const. Amend. VII

Federal Rule of Civil Procedure 50

(a) Motion for Directed Verdict: When Made; Effect. A party who moves for a directed verdict at the close of the evidence offered by an opponent may offer evidence in the event that the motion is not granted, without having reserved the right so to do and to the same extent as if the motion had not been made. A motion for a directed verdict which is not granted is not a waiver of trial by jury even though all parties to the action have moved for directed verdicts. A motion for a directed verdict shall state the specific grounds therefor. The order of the court granting a motion for a directed verdict is effective without any assent of the jury. Fed. R. Civ. P. 50(a).[3]

STATEMENT OF THE CASE

This petition arises out of an action by Petitioners Jacob H. Malta and Malmark, Inc. (hereinafter "Malta")

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3. This is the version of FRCP 50 in effect at the time of trial in this matter. The current version of FRCP 50 uses different language, but would present the same issue had it been in effect at the time of trial. Accordingly, the portion of this petition respecting FRCP 50 is not moot.

against Respondent Schulmerich Carillons, Inc. (hereinafter "Schulmerich") and other non-patent defendants, alleging *inter alia* that Schulmerich's sales of handbells infringed a handbell patent owned by Mr. Malta. Jurisdiction in the district court was founded in part on 28 USC §1338(a).

Handbells are musical instruments. A handbell includes the bell itself, a handle attached to the closed end of the bell and a striker assembly pivotally mounted inside the bell to swing in a single plane with respect to the bell. Attached to one end of the striker assembly is a clapper. When a musician swings the handbell, the clapper strikes the bell, providing a musical bell sound.

Handbells are rung in churches, in schools and at handbell festivals, largely by amateur musicians who are handbell enthusiasts. A choir of handbell ringers can perform musical scores within the range of notes of the handbells in a given handbell set.

Schulmerich has manufactured handbells since 1963. Malmark has manufactured handbells since December of 1974. The U.S. market for handbells is essentially a two supplier market, apportioned approximately 65:30 between Schulmerich and Malmark.[4]

Mr. Malta's patent, on which Malta sued Schulmerich, is for a handbell with a clapper allowing the handbell tonal quality to be manually adjusted "on the fly", i.e. while the bell is being played.

Prior to Mr. Malta's invention of "on the fly" adjustability, some handbells had clappers with peripheral portions of differing hardness. By using a screwdriver to loosen and then rotate the clapper, one could mechanically change the portion of the clapper striking the bell and thereby adjust the tonal qualities of the bell among hard, medium and soft tones. The clappers of these prior art handbells could not be adjusted while the bells were being played.

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4. The remaining 5% of the market is fragmented among several small suppliers, most of whom are offshore.

In his patented invention Mr. Malta combined a detent mechanism with a handbell and a clapper having peripheral portions of differing hardness, permitting the clapper to be manually rotated among click stops as the bell is played. The detent mechanism releasably retains the clapper in any one of the click stop positions. As a result, the clapper can be rotated by hand while the handbell is being played, to change handbell tonal quality "on the fly". Malta's "on the fly" feature permitted handbell music composers to write and arrange handbell music that could not be performed using the old style, screwdriver-adjustable handbells.[5]

Schulmerich's handbells have a manually adjustable clapper with "on the fly" adjustability, which is the hallmark of Mr. Malta's patented invention.[6] Indeed, the Schulmerich handbells are sold under the name "Quick-Adjust".

At the beginning of September, 1988, infringement was tried to a jury. Schulmerich conceded that Malta's patent was valid.

Malta presented many kinds of evidence supporting his infringement claim, including:

- Mr. Malta's own expert testimony comparing the way the Schulmerich handbell and his patented invention both produce bell tones of different hardness on the fly;

- an in-court demonstration of the way the Schulmerich handbell could be manually adjusted on the fly to produce bell tones of differing hardness; after the demonstration, the jury was given the Schulmerich handbell to examine and ring;

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5. A terrific example of such a new arrangement appeared on Malta's videotape trial exhibit 70 — see page EA-12 in the Exhibit Appendix.

6. Relevant details of Malta's patent and the infringing Schulmerich handbell are set forth in the Federal Circuit opinion, 952 F.2d 1320, 1322, Appendix pages A-3 through A-5. Malta's patent is in the Exhibit Appendix beginning at page EA-14.

—a series of 24 x 30 inch color illustrations[7] of Schulmerich's handbell shown in exploded form, with the parts facilitating "on the fly" tonal adjustment labelled to correspond with the claim limitations of Malta's patent;

—enlarged 24 x 30 inch photographs[8] of a disassembled patented Malmark handbell and a disassembled Schulmerich handbell, including transparent overlays linking the handbell parts facilitating "on the fly" tonal adjustment with the claim limitations of Malta's patent. Mr. Malta pointed to the handbell parts in the photographs as he explained to the jury how the Schulmerich handbell performed the same function in the same way to produce the result claimed in his patent;

—a videotape[9] of a handbell choir performing "The Stars and Stripes Forever". The tape was stopped in mid-performance to show the jury the patented bell being manually adjusted by one of the performers to vary the tonal quality; and

—further testimony by Mr. Malta as to equivalence of the only disputed part of the Schulmerich handbell vis-a-vis the patent claim, as taught by the prior art, namely by an earlier U.S. patent he had been awarded.

At the close of Malta's case-in-chief, Schulmerich moved for a directed verdict:

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7. These illustrations were Malta's trial exhibits P-44 through P-50 and are reproduced in reduced size at pages EA-4 through EA-11 in the Exhibit Appendix.

8. These photographs were Malta's trial exhibits P-51 through P-52B and are reproduced in reduced size at pages EA-1 through EA-4 in the Exhibit Appendix.

9. The videotape was Malta's trial exhibit 70. A stop frame from the videotape is provided in the Exhibit Appendix at page EA-12.

> [V]ery briefly, we move for a directed verdict on the issue of non-infringement of claim 2 and claim 3 of the '082 patent on the grounds that the evidence is insufficient.

After the close of all the evidence, Schulmerich renewed the motion. The motion was denied. The district court then instructed the jury regarding patent infringement, including the familiar *Graver Tank* three prong test for infringement under the doctrine of equivalents. No objection was raised to the jury instructions.

On September 7, 1988 the jury returned a verdict in favor of Malta, finding in special interrogatories that Schulmerich's handbell infringed claim 3 of Malta's patent under the doctrine of equivalents.

Schulmerich moved for JNOV, alleging lack of substantial evidence to support the jury finding of equivalents infringement.

More than eight (8) months later, on May 8, 1989, while Schulmerich's JNOV motion was still pending, the Federal Circuit decided *Lear Siegler, Inc. v. Sealy Mattress Co.,* 873 F.2d 1422 (Fed. Cir. 1989). In *Lear Siegler,* the Federal Circuit reversed a jury finding of infringement under the doctrine of equivalents, holding for the first time that "particularized testimony" and "linking argument" were required, as to each prong of the *Graver Tank* equivalents infringement test, before a patentee's case could even go to a jury:

> [T]he three (3) *Graver Tank* elements [substantial identity of function, way and result] **must be presented in the form of particularized testimony and linking argument.** 873 F.2d at 1425-26. [emphasis added.]

Schulmerich sent a copy of *Lear Siegler* to the district court.

On November 21, 1989 the district court granted JNOV. The district court based the JNOV on its perception that Malta had not presented the newly required

"particularized testimony" and "linking argument" for one prong of the *Graver Tank* test, which the district court applied to the only disputed limitation of claim 3. The district court held that such "particularized testimony" and "linking argument" had been required in order for Malta's case to even go to the jury, for fact finding respecting infringement. A-64.

Malta moved to vacate the JNOV; the motion was denied.

Malta appealed to the Federal Circuit, asserting error in the district court's grant of JNOV on the bases that (1) there was substantial evidence supporting the jury's verdict, (2) the district court had erroneously applied the three-prong *Graver Tank* test to each patent claim limitation, rather than to a patent claim taken as a whole, (3) the new procedural requirement of *Lear Siegler* could not be applied retroactively to Malta, (4) *Lear Siegler* conflicted with *Graver Tank* and (5) the trial court could not enter JNOV on a basis which was neither argued in the directed verdict motion nor asserted in its JNOV motion by Schulmerich.

A three-judge panel of the Federal Circuit agreed with Malta that the trial court erred, as a matter of law, in applying the *Graver Tank* three-prong test to the only disputed claim limitation. A-11. However, the panel divided two-to-one on whether the trial court's error required reversal of the JNOV and reinstatement of the jury verdict. A-1, 18, 25.

The majority examined just two (2) brief passages of Mr. Malta's trial testimony and concluded that the testimony was "not sufficiently particularized" to comport with the new requirements of *Lear Siegler*. Based on this, the majority affirmed the JNOV. A-12, 13, 15.

The concurring opinion by Judge Michel, the author of *Lear Siegler,* stated that it was written to emphasize that affirmance of the JNOV was required "explicitly by *Lear Siegler.*" The concurring opinion went to considerable length in criticizing Malta for allegedly failing to

prove every element of his case by "separate and explicit" *Lear Siegler* "particularized testimony". The concurring opinion repeated that the *Lear Siegler* "requirement" was for " 'testimony' (as opposed to other forms of evidence) and 'linking argument' " A-23.

Both the majority and concurring opinions focused on the *Lear Siegler* requirement for "testimony", ignoring the abundant demonstrative and real evidence Malta had presented, such as reproduced in the Exhibit Appendix hereto.

The vigorous thirty-one page dissent found that

> the *Lear Siegler* requirements of 'particularized testimony and linking argument' in jury trials are in conflict with *Graver Tank*

and were new law which could not be applied retroactively to Malta. The dissent further stated that there was substantial evidence to support the jury's verdict and that Malta's proofs met even the new "particularized testimony" requirement of *Lear Siegler*. The dissent yet further noted that it was contrary to Malta's due process and jury trial rights "to revise the evidentiary and procedural burdens of the trial after the jury's verdict has been rendered" and that if the *Lear Siegler* criteria were applied to Malta, the interests of justice required a new trial, not reversal of the jury's verdict. A-48.

Malta's subsequent petition for reconsideration was denied, as was Malta's suggestion for rehearing in banc, with another stinging dissent:

> With denial of Malta's request for *en banc* review, this court has perpetuated the conflicts that flow from the panel's treatment of this jury verdict. The jury verdict was reversed by the panel majority on the basis of evidentiary and substantive rules that were not before the trial judge or the jury, and indeed not embodied in precedent until eight months after the verdict was rendered. The panel

majority simply decided the controlling factual issues of this case *de novo.* Not only law, but justice, have been slighted. A-58.

We have stated that the rulings of a panel of this court, when inconsistent with earlier rulings, do not bind the court unless adopted *en banc.* Thus the standard of review of jury verdicts in the court, as well as the interpretation of the doctrine of equivalents, will continue to depend on the selection of the panel. I am told that over one third of the patent cases that come to trial in the district courts are now tried to a jury. In view of the panel majority's disregard of established procedures for appellate review of jury verdicts, the court falters in its obligation to adopt a consistent position on which the public can rely. A-59.

REASONS FOR GRANTING THE WRIT

1. JNOV Based on Retroactively Applied New Procedural Case Law (Appearing Seven Months After Malta's Victory At Trial) Deprived Mr. Malta of His Fifth Amendment Right to Due Process and His Seventh Amendment Right to a Jury Trial

The Fifth Amendment guarantee of due process of law dictates that the new procedural requirements of *Lear Siegler* should not have been applied retroactively to Malta.

Due process means the rules are known before the game is played. Nothing could be more violative of due process than to change a rule of procedure after a trial, to deprive the victor of his jury verdict.

In holding that *Lear Siegler* did not establish a new principle of law, the Federal Circuit majority was unable

to point to any objective evidence supporting its conclusion that *Lear Siegler's* absolute requirement for "particularized testimony"[10] and "linking argument" was not new procedural law.

The facts show that *Lear Siegler's* requirement for "particularized testimony" and "linking argument",[11] as the *sine qua non* for a patentee to get an equivalents infringement case to a jury, established new procedural law. The available evidence, all of which the Federal Circuit majority and concurring opinions cavalierly ignored, simply does not support any reasonable inference that *Lear Siegler* was anything other than new law:

— There is no mention in any opinion prior to *Lear Siegler*[12] of any requirement for "particularized

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10. The Federal Circuit's focus on the *Lear Siegler* requirement for "particularized testimony", to the exclusion of demonstrative and real evidence, presumably to safeguard against a jury failing to consider all of the *Graver Tank* prongs, is strange. It excludes the possibility of a patentee demonstrating the infringing device to the jury as part of the patentee's prima facie equivalents infringement case. The infringing device is always the best evidence.

11. At least one district court characterizes the requirement for "linking argument" as "curious" and has refused to apply *Lear Siegler. GTE Products Corp., et al. v. Kennametal, Inc.,* 772 F. Supp. 907 (W.D. Va 1991):

> To the extent that [*Lear Siegler*] suggests the need for argument explaining the evidence, I find such suggestions to be dicta. It is also hornbook law that juries are bound to recall, interpret and weigh only the evidence in a trial, which includes the testimony of the witnesses and the exhibits in the case. Argument by counsel is not evidence (citing cases) . . . Usually the trial judge will instruct the jury on this point (citing practice treatises) . . . Where there is sufficient evidence in the record on which to base an instruction on the doctrine of equivalents, the instructions, not the argument of counsel, are the appropriate vehicle for explaining the doctrine to the jury. 772 F. Supp, 907, 917.

12. The Federal Circuit's assertion that *Lear Siegler, Inc. v. Sealy Mattress Co.,* 873 F.2d 1422, 1427, 10 USPQ2d 1767 (CAFC 1989) was not new procedural law and amounted only to explication

testimony" respecting proof of equivalents infringement. Other than requiring that evidence be "competent", decisions prior to *Lear Siegler* (with the exception of *Graver Tank*, as discussed in the next section of this Petition) simply do not address the form of the evidence required to prove equivalents infringement.

– The Malta trial court had eight months **before** *Lear Siegler*, from September 8, 1988 to May 10, 1989, to grant JNOV if it believed there was a requirement for "particularized testimony." However, not until seven months **after** *Lear Siegler* (and 15 months **after** Malta's trial) did the trial court decide that Malta's testimony had been insufficiently "particularized."

– Respecting the "particularized testimony" and "linking argument" requirements enunciated in *Lear Siegler*, the Westlaw Federal Patent database, from the date of *Nestier* through 1990, reveals only two references to "particularized testimony" and/or "linking argument." Not surprisingly, those two references appear in *Lear Siegler* and in the Malta JNOV opinion. There is **no** reference to "particularized testimony" (or to "linking argument") in any patent case prior to *Lear Siegler*.

NOTES *(Continued)*

of *Nestier Corp. v. Menasha Corporation-Lewisystems Div.*, 739 F.2d 1576, 1579 is not supportable. The *Lear Siegler* opinion **conceded** that *Nestier's* alternative ground ("explication" of each *Graver Tank* element) on which *Lear Siegler* was based was dicta:

> . . . [I]t can be considered dicta because the result would have been the same without it. *Lear Siegler* , 873 F.2d 1422, 1427, 10 USPQ2d 1767, 1772 (CAFC 1989).

The conceded *Nestier* dicta stated that only "competent" evidence was required respecting the *Graver Tank* prongs; the dicta said nothing about any requirement for "particularizing testimony" to the exclusion of other evidence.

- Of the ten reported cases citing *Nestier* and appearing before *Lear Siegler,* none cites *Nestier* for the proposition that the Federal Circuit said was older than *Lear Siegler*—that "particularized testimony" was necessary and must be separately presented respecting each of the three *Graver Tank* prongs to establish a *prima facie* equivalents infringement case for a jury.

- If "particularized testimony" was a procedural evidentiary requirement established by *Nestier,* as the Federal Circuit majority and concurring opinions assert, it escaped Judge Keeton in Massachusetts[13] and Chief Judge Boyle in Rhode Island[14] in patent jury trials over which they presided.

- Federal Circuit opinions citing Nestier and/or addressing issues similar[15] to those presented by this Petition lack any mention of a "particularized testimony" and/or "linking argument" requirement until 10 May 1989, when *Lear Siegler* appeared.

- The only law review article[16] to date concerning *Lear Siegler* says: "Until *Lear Siegler,* the Federal Circuit had not firmly adopted a method for presenting the issue of equivalency to a jury."

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13. *Fonar Corp. v. Johnson & Johnson,* 230 USPQ 105, 111 (D. Mass. 1986).

14. *Newell Companies, Inc. v. Kenney Manufacturing Company,* 226 USPQ 157 (D.R.I. 1985).

15. The Federal Circuit's opinion in *Sun Studs Inc. v. ATA Equipment Leasing Inc.,* 872 F.2d 978, 986, 10 USPQ2d 1338 (CAFC 1989) is particularly noteworthy, involving facts similar to those presented by Malta's appeal and decided only six weeks prior to *Lear Siegler.*

16. Richard E. Wawryzniak, *Proving Patent Infringement Under the Doctrine of Equivalents: The Specific Evidentiary Requirements for Getting to the Jury,* 55 Mo. L. Rev. 1105, 1114 (1990).

– *Patent Law and Practice,* published by the Federal Judicial Center for guidance of United States district court judges in conducting patent trials,[17] makes *no mention* of a requirement for any "particularized testimony" to prove equivalents infringement. Published four years after *Nestier, Patent Law and Practice* does not even cite *Nestier* in the section concerned with proof of equivalents infringement.

– The treatise *Patent Law Perspectives* (June 1990 revision) contains no citation in the Table of Cases to *Nestier.* The treatise does contain a citation for *Lear Siegler* (footnote 71 in Section 3.4[1] on page 3-40.19), but only in connection with a discussion of whether the Federal Circuit has allowed the doctrine of equivalents, and determinations of infringement thereunder, to expand the scope of patent claims. There is no hint in the discussion respecting *Lear Siegler* of anything about "particularized testimony" or "linking argument."

– If, as asserted in the Federal Circuit majority and concurring opinions, it was *Nestier* (and not *Lear Siegler)* that created the procedural requirement for "particularized testimony", surely some court, somewhere in this country, in an equivalents infringement case after *Nestier,* would have made reference to "particularized testimony" (or to "linking argument"). **There are no such cases reported, despite the fact that *Nestier* was cited for other propositions ten times during the period before *Lear Siegler* appeared.**

All of the foregoing is clear, uncontroverted evidence that *Lear Siegler* first established the requirement

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17. Address by the Honorable Joseph J. Sarnan, Jr. United States District Court Judge for the District of Delaware, to The Philadelphia Patent Law Association, Philadelphia, Pa. 21 November 1991.

for "particularized testimony" to make a prima facie equivalents infringement case for a jury. It is indisputable that *Lear Siegler* was new procedural law, unconstitutionally retroactively applied first by the trial court in granting JNOV and then by two judges of the Federal Circuit in affirming the trial court.

Judgments based on the kind of procedural irregularity to which Malta[18] was subjected erode confidence in the judicial process. How can patent counsel render helpful advice and provide effective representation when threatened with retroactive application of new procedural rules after trials conclude? Exercise of this Court's power of supervision is warranted to correct the manifest injustice resulting from the retroactive and irregular application of *Lear Siegler* to Malta by the courts below.

The Petition should be granted to correct the egregious wrong done to Malta and to advise patent owners, businesses and the patent bar whether retroactive application of new procedural law no longer violates Fifth and Seventh Amendment constitutional guarantees.

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18. The Federal Circuit's *Lear Siegler* requirement for Malta to have offered "particularized testimony" as to (1) the "way" striking buttons of differing hardness produce bell tones of differing hardness and (2) "why" this "way" of producing bell tones is equivalent to the "way" of producing bell tones using striking surfaces of differing hardness, is nothing short of sophistry. The question, which the Federal Circuit said should have been posed to Malta, answers itself: Striking surfaces (or buttons or anything else) of differing hardness hitting a bell *necessarily* produce bell tones of differing hardness. To require "particularized testimony" to tell the jury "why" this occurs, when this is within common background and experience and, indeed, was demonstrated to the jury, goes beyond any reasonable requirement for proof.

2. The JNOV Granted on the Basis that Malta Was Required to Prove Equivalents Infringement by "Particularized Testimony", Notwithstanding His Abundant Real and Demonstrative Evidence, His Comparative Demonstration of the Infringing Product and His Expert Testimony, Conflicts with This Court's Holding in *Graver Tank* That Proof of Equivalents Infringement Can Be Made By Any Relevant Evidence

For 40 years *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S 605 (1950), reh. den. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 340 U.S. 845 (1950), has stood as a pillar of the patent law. The Federal Circuit views *Graver Tank* as "seminal." *Thomas & Betts Corporation v. Litton Systems, Inc.*, 220 USPQ 1 (CAFC 1983).

In *Graver Tank*, this Court made it crystal clear that proof of equivalents infringement can be made by any evidence – "particularized testimony" is not the *sine qua non* of proving equivalents infringement:

> A finding of equivalence is a determination of fact. **Proof can be made in any form: Through testimony of** experts or others versed in the technology; **by documents,** including texts and treatises; **and, of course, by the disclosures of the prior art.** *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, (1950) 339 U.S. 605, 85 USPQ 328, 331, reh den *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, (1950) 340 U.S. 845. (emphasis supplied).

By ignoring Malta's extensive real and demonstrative evidence (namely the accused handbell, including a live demonstration for the jury of the way it infringed), photographs of it (see Exhibit Appendix pp. EA-1 through EA-4) and exploded color drawings of it (see Exhibit Appendix pp. EA-5 through EA-11) and holding

that Malta's testimony was insufficiently "particularized" for his case to go to the jury, the majority acted contrary to *Graver Tank*.

The Federal Circuit majority erred by looking *only* at two isolated portions of Mr. Malta's testimony. The opinion clearly evidences the majority's error:

> The evidence Malta principally points to is the following two portions of the testimony of Jacob Malta . . . [A-11]

After considering only the two short excerpts of Mr. Malta's testimony, which constitute only a tiny portion of the record[19], the Federal Circuit majority erroneously concluded those two excerpts of testimony constituted Malta's only evidence relating to equivalents infringement:

> There is no other evidence in the case which provides the necessary 'substantial evidence' on the issue of infringement under the doctrine of equivalents. [A-14]

This is patently wrong. The Federal Circuit majority ignored other testimony by Mr. Malta respecting comparison of the "way" handbell striking surfaces and striking buttons of differing hardness produce bell tones of differing hardness.[20]

The Federal Circuit majority also ignored Malta's testimony-supported demonstration for the jury of the

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19. Of course, the Federal Circuit panel did not have the benefit of seeing Mr. Malta demonstrate the way the infringing bell worked vis-a-vis his patent claim, as he testified. The Federal Circuit panel was not there to see Mr. Malta when he directed the jury's attention, as he was testifying respecting the way the infringing bell worked vis-a-vis his patent claim, to 24" x 30" inch exploded color drawings of the Quick-Adjust handbell keyed to his patent claim (pp. EA-5 through EA-11, Exhibit Appendix) and to photographs of the Quick-Adjust handbell parts linked to his claim (pp. EA-1 through EA-4, Exhibit Appendix).

20. This "way" was the only disputed fact respecting infringement.

"way" the Schulmerich handbell could be manually adjusted to produce bell tones of differing hardness. Mr. Malta rang that bell in the courtroom and then had the jury handle and examine that handbell while in the jury box. Mr. Malta not only ***testified*** as to "why", he ***showed*** the jury "how" and "why" that handbell operated the same "way" as his patented invention.[21]

This demonstration, which the Federal Circuit majority ignored, is precisely the kind of evidence this Court approved in *Graver Tank*. In *Graver Tank*, comparative demonstrations of the product embodying the invention and the infringing product were presented. Malta presented analogous demonstrations of a handbell product embodying his invention and the infringing Schulmerich handbell product. This demonstration was a second "form" (in addition to Mr. Malta's testimony) of Malta's proof of equivalents infringement, which *Graver Tank* holds "can be made in any form".

The Federal Circuit majority additionally ignored Malta's demonstrative evidence—a series of 24" x 30" drawings of the Schulmerich Quick-Adjust handbell (Exhibit Appendix, pp. EA-5 through EA-11). Those drawings, which were admitted in evidence without objection, showed the Schulmerich Quick-Adjust handbell in exploded form with the handbell parts linked to claim limitations reproduced in large print below the colored handbell parts. These drawings were a third "form" (in addition to Mr. Malta's testimony and the demonstration) of Malta's proof of equivalents infringement, which *Graver Tank* holds "can be made in any form".

The Federal Circuit majority ignored even additional items of Malta's demonstrative evidence—24" x 30" photographs of the patented handbell and of the Quick-Adjust handbell disassembled (Exhibit Appendix, pp. EA-1 through EA-4). The photographs included

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21. These demonstrations were performed and the bell was admitted in evidence without objection.

transparent overlays, linking handbell parts to corresponding claim limitations. Mr. Malta directed the jury's attention to the photographs, pointing to the various handbell parts shown in photographs as he explained to the jury how the Schulmerich handbell in the photographs provided the function recited in the claim language, operated the same way and produced the same result. These photographs were a fourth form (in addition to Mr. Malta's testimony, the demonstration and the drawings) of Malta's proof of equivalents infringement, which *Graver Tank* holds "can be made in any form".

The Federal Circuit majority egregiously violated this Court's holding in *Graver Tank* by ignoring part of Mr. Malta's testimonial evidence and all of Malta's real and demonstrative evidence adduced at the trial.

The Federal Circuit was created, in large part, to promote confidence in and to bring uniformity and predictability to U.S. patent jurisprudence. Instead, the Federal Circuit has wrought confusion with decisions such as *Lear Siegler* and that rendered against Malta. In the process, the Federal Circuit has disregarded controlling precedents of this Court, specifically *Graver Tank*, which has well served the U.S. patent system for over forty years.

This Petition should be granted so that patent owners, the patent bar, district court judges and the public can learn whether *Graver Tank* is still good law or has been overruled by the Federal Circuit.

3. The Conflict Between the Federal Circuit Majority's Application of FRCP 50 and Controlling Third Circuit Precedent Must be Resolved by this Court

The Federal Circuit majority erred in holding that Schulmerich's directed verdict motion was sufficiently specific under FRCP 50. The Federal Circuit panel majority should have followed its own precedent and

looked to controlling Third Circuit[22] procedural law respecting application of FRCP 50. Specificity in a directed verdict motion is a requirement under FRCP 50.

The Third Circuit held this directed verdict motion, which is virtually identical to Schulmerich's, to be fatally defective:

> MR. WAITE: I would move for a directed verdict on the remaining claims of the plaintiff as well.
>
> THE COURT: All right.
>
> MR. WAITE: **That the evidence is not sufficient,** viewed in the light most favorable to the plaintiff.
>
> THE COURT: All right. . . .
>
> *Abraham v. Pekarski,* 728 F.2d 167, 171 (3 Cir. 1984), cert. den.; *Pekarski v. Abraham,* 467 U.S. 1242 (1984).(emphasis supplied).

Schulmerich moved for a directed verdict of "non-infringement" by similarly asserting only that the evidence was "insufficient":

> MR. PRESTON: [W]e move for a directed verdict on the issue of noninfringement of claims 2 and claims 3 of the 082 patent on the grounds **that the evidence is insufficient.**
>
> MR. QUINN: We oppose the motion—
>
> THE COURT: Denied.

Schulmerich stated no other grounds, nor any more specific grounds, for its motion.

Respecting the essentially identical *Abraham* motion and whether it was sufficiently specific to comport with the notice requirement underlying FRCP 50, the Third Circuit said:

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22. *Panduit Corp. v. All States Plastic Mfg. Co.,* 744 F.2d 1564, 232 USPQ 465 (CAFC 1984).

> . . . **That motion cannot reasonably be considered to have alerted** the trial court or **opposing counsel** . . . *Abraham v. Pekarski,* 728 F.2d 167, 171 (CA3 1984), cert. den. (emphasis supplied).

Schulmerich's motion sounded as if Schulmerich's counsel was reading from the *Abraham v. Pekarski* transcript.

Federal Circuit precedent holds that controlling procedural law respecting directed verdict motions in patent infringement suits is the procedural law of the relevant regional circuit. *Digital Equipment Corp. v. Emulex Corp.,* 805 F.2d 380; 231 USPQ 779 (Fed. Cir. 1986); *Newell Companies v. Kenney Manufacturing Co.,* 864 F.2d 757; 9 USPQ2d 1417 (Fed. Cir. 1988). Clearly, the Federal Circuit majority erred by not following Third Circuit procedural law in deciding Malta's appeal.

Federal Circuit precedent may not be changed by a three-judge Federal Circuit panel, but only by the Federal Circuit sitting *in banc. South Corp. v. United States,* 690 F.2d 1368; 1215 USPQ 657 (Fed. Cir. 1982). As a result of the Federal Circuit majority's decision, the patent bar and patentees are at sea respecting the specificity requirement of FRCP 50 in a patent infringement suit. The Federal Circuit majority's holding squarely conflicts with applicable Third Circuit procedural law, which the Federal Circuit's own precedent says controls.

At this juncture, a patent infringement litigant cannot know whether Federal Circuit holdings (that regional circuit procedural law respecting directed verdict motions controls) are still effective or whether the Federal Circuit has created new, patent-specific procedural law respecting Federal Rule of Civil Procedure 50. Necessary resolution of the Federal Circuit/Regional Circuit conflict by this Court weighs heavily in favor of granting this Petition.

CONCLUSION

The Petition should be granted so that Mr. Malta and Malmark may be afforded their Fifth and Seventh Amendment constitutional rights, so that patent owners, the business community and the patent bar may know whether *Graver Tank* is still good law and the bar may learn what law controls respecting FRCP 50 motions in the Federal Circuit.

Respectfully submitted,

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Of Counsel

Dated: April 27, 1992

APPENDIX

IN THE

UNITED STATES COURT OF APPEALS

FOR THE FEDERAL CIRCUIT

No. 90-1250, -1269

JACOB H. MALTA and MALMARK, INC.,
Plaintiffs-Appellants,

v.

SCHULMERICH CARILLONS, INC., and
RONALD O. BEACH,
Defendants/Cross-Appellants,

and

KELLY-MICHENER, INC., and
THE HANDCHIME COMPANY, LTD.,
Defendants.

DECIDED: December 26, 1991

Before RICH, NEWMAN, and MICHEL, *Circuit Judges.*
RICH, *Circuit Judge.*

Jacob H. Malta and Malmark, Inc. (Malmark) (collectively Malta) appeal in this patent case from the November 20, 1989 Order of the United States District Court for the Eastern District of Pennsylvania, granting judgment notwithstanding a jury verdict (JNOV) of non-infringement in favor of defendant Schulmerich Carillons, Inc. (Schulmerich). *Malta v. Schulmerich Carillons Inc.,* 13 USPQ2d 1900 (E.D. Pa. 1989). Schulmerich cross-appealed from the November 20 Order insofar as it denied Schulmerich's motion for JNOV that it is the equitable owner of the patent in suit and/or has a shop right under that patent. We affirm on the ground of non-infringement, and do not reach the cross-appeal.

BACKGROUND

A. The Patent in Suit

The patent in suit, U.S. Patent No. 3,941,082 ('082 patent) issued to Mr. Jacob Malta, is directed to improvements in the design of handbells, of the type used by music groups in churches, schools, and the like. Quoting the patent, "[a] chorus of players using a plurality of tuned bells may render any given tune which falls within the range of notes offered by the specific bells."

Handbells are generally made up of the bell itself, a handle attached to the closed end of the bell, and a clapper assembly pivotably mounted inside the bell and moving in a single plane. Attached to one end of the clapper assembly is a generally circular clapper or striker which, when the handbell is swung, strikes the bell to ring it.

The '082 patent discloses a number of improvements in handbell design. Most relevant to this suit is Malta's provision of a clapper mechanism for allowing the loudness of the bell to be quickly adjusted "on the fly," i.e., while the bell is being played. Specifically, it was known in the prior art to provide the peripheral surface of the clapper with portions of differing hardness so that, by rotating the clapper, one could change which portion of it struck the bell and consequently the loudness of the bell. However, the clapper could not be adjusted while the bell was being played. The '082 patent not only provided the clapper with striking surfaces of differing hardness around the periphery thereof, but also provided a detent mechanism which releasably locked the clapper in each desired position. In that way, the clapper could be rotated by hand while the handbell was being played.

The '082 patent discloses two different embodiments for the clapper. These two embodiments, shown in Figs. 3 and 7 of the '082 patent, are reproduced below.

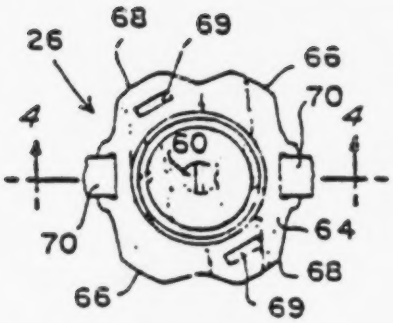

Fig. 3

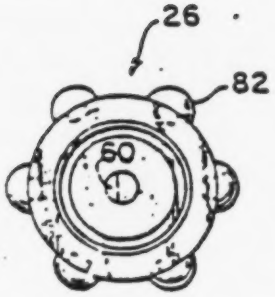

Fig. 7

The first embodiment, shown in Fig. 3, has three opposing pairs of "striking surfaces." The first pair (66) consists simply of the hard rubber of which the clapper is made. The second pair (68) of striking surfaces has a slot cut into the rubber material. The third pair (70) has a piece of soft material such as felt attached to the clapper. These three pairs of striking surfaces provide a loud, medium, and soft sound, respectively.

The second embodiment, shown in Fig. 7, has three "opposed pairs of buttons" (82) attached to the surface of the clapper. Each pair of buttons has a different degree of hardness so that, like,the embodiment of Fig. 3, either a soft, medium, or loud sound can be produced, depending on which button pair is aligned to strike the bell. (The patent's term "opposed pairs" is somewhat confusing. The *pairs* are not opposed; rather, each pair has opposed *buttons* of the same hardness.)

Claims 2 and 3 are relevant to this appeal. Claim 3 reads as follows:

> 3. A handbell comprising in combination: a bell having a generally closed end; a clapper assembly adapted to be removably carried within said bell and centrally of the closed end thereof, said assembly comprising a clapper shaft having one end pivotally associated centrally of the closed end of said bell and carrying a clapper member at its free extremity, said

> clapper member comprising a generally circular striker assembly rotatably positioned substantially normal to said clapper shaft and including a plurality of *striking buttons* positioned in opposed pairs around the outer periphery thereof and wherein *each pair of buttons* has a different degree of hardness; means on said clapper assembly coacting with said rotatable striker assembly for permitting rotation of said striker assembly relative to said clapper shaft for selectively positioning desired pairs *of buttons* in striking relation to said bell; and detent means cooperating with said rotatable striker for releasably holding said striker assembly in any preselected position. (Emphasis ours.]

Claim 2 is very similar to claim 3 and differs primarily in two respects: one, instead of the "coacting" means recited in claim 3, claim 2 requires an "indexing means" on the handle and the clapper assembly; and, two, instead of the "buttons" recited in claim 3, claim 2 requires "at least three opposed pairs of surface portions wherein each of said pairs has a different degree of hardness."

B. The Proceedings in the District Court

This case presents the familiar scenario of an employee who leaves his job and starts his own company, only to find himself later at legal odds with his former employer. Jacob Malta was employed by Schulmerich as its chief engineer from 1956 to 1973. In 1973, Mr. Malta left Schulmerich and, in 1975, formed Malmark. Malmark quickly grew and became the primary competitor of Schulmerich in the handbell business. The two companies currently supply about 95% of the handbell market.

In 1985, Malta sued Schulmerich (and other defendants), alleging, among other things, that a line of Schulmerich handbells sold under the trademark "Quick-Adjust" infringes claims 2 and 3 of the '082

patent.[1] The Quick-Adjust handbells are on-the-fly adjustable handbells which have striking surfaces similar to Fig. 3 of the '082 patent, with pairs of opposed striking surfaces of different hardness by virtue of felt coverings and/or slots or holes formed in the hard rubber clapper.

With respect to claim 3, Schulmerich denied infringement primarily on the ground that its Quick-Adjust handbells do not have a striker assembly with "a plurality of striking buttons positioned in opposed pairs around the outer periphery thereof and wherein each pair of buttons has a different degree of hardness." Schulmerich argued that the '082 patent uses the word "buttons" only in conjunction with the embodiment of Fig. 7, and that the Quick-Adjust handbells do not have such buttons. In response, Malta argued, and presented evidence to show, that the word "buttons" was not limited to the embodiment of Fig. 7, but should be construed broadly to literally include striking surfaces such as those of Fig. 3 of the '082 patent and those of the Quick-Adjust handbells.

In addition to denying liability on the ground of non-infringement, Schulmerich also contended that Jacob Malta had actually invented the subject matter of the '082 patent while employed at Schulmerich. Consequently Schulmerich argued that it was either the equitable owner of the '082 patent (due to Mr. Malta's contractual obligation to assign to Schulmerich all inventions made while working for Schulmerich), or at the very least had a shop right in the patented subject matter.

The case was tried before a jury. Malta requested and obtained a jury instruction not only on literal

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1. The complaint also included claims other than patent infringement against Schulmerich and other named defendants, Ronald 0. Beach, Kelly-Michener, Inc., and The Handchime Co. The case was subsequently bifurcated into patent and non-patent portions.

infringement but also on the doctrine of equivalents. In particular, the judge instructed the jury that

> Infringement under the doctrine of equivalents may exist if the accused handbells perform substantially the same function in substantially the same way so as to obtain substantially the same results as the claimed invention.
>
> * * * *
>
> In applying the doctrine of equivalents, remember that infringement requires that each and every element of an asserted claim or the equivalent of the element must be present in the accused device.

The jury was given special interrogatories asking whether the Quick-Adjust handbells infringed claims 2 and 3 of the '082 patent, either literally or under the doctrine of equivalents. In response, the jury found, for reasons unrelated to any issue here, that claim 2 was not infringed, but that claim 3, while not literally infringed, was infringed under the doctrine of equivalents. The jury was also given special interrogatories concerning Schulmerich's claim of either equitable ownership or shop right, and found that Schulmerich had neither. The jury awarded damages in the amount of $950,000.

Schulmerich moved for JNOV on the grounds that the evidence was not sufficient to support either the finding of infringement under the doctrine of equivalents or the finding that Schulmerich had neither equitable ownership of, nor a shop right in, the '082 patent.

Approximately seven months later, while decision on the JNOV motion was still pending, this court decided the case of *Lear Siegler Inc. v. Sealy Mattress Co.*, 873 F.2d 1422, 10 USPQ2d 1767 (Fed. Cir. 1989). In *Lear Siegler,* this court reversed a jury's finding of infringement under the doctrine of equivalents, stating, among other things:

> Absent the proper *Graver Tank*[2] context, i.e., a showing of how plaintiff compares the function, means, and result of its claimed invention with those of the accused device, a jury is more or less put to sea without guiding charts when called upon to determine infringement under the doctrine. While we do not doubt the ability of a jury to decide the factual issue of equivalence, to enable the jury to use its ability, *Nestier*[3] requires that the three *Graver Tank* elements [substantial identity of function, way and result] must be presented in the form of particularized testimony and linking argument.

873 F.2d at 1425-26, 10 USPQ2d at 1770. Schulmerich brought *Lear Siegler* to the judge's attention in a letter citing the case in support of its motion for JNOV of noninfringement.

The judge upheld the jury's verdict as to the equitable ownership/shop right question, but agreed that the evidence was insufficient to support the finding of infringement under the doctrine of equivalents. The judge, relying heavily on the *Lear Siegler* decision, found that Malta had not provided "particularized testimony and linking argument" as to each of the function/way/result prongs of the tripartite *Graver Tank* equivalency test and granted JNOV in favor of Schulmerich. He set aside the jury verdict and refused to enter a permanent injunction against Schulmerich.

Malta appeals from the grant of JNOV of noninfringement, and Schulmerich cross-appeals from the denial of its JNOV motion based on the equitable ownership/shop right defense.

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2. *Graver Tank and Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605 (85 USPQ 328) (1950).

3. *Nestier Corp. v. Menasha Corp.-Lewisystems Div.*, 739 F.2d 1576, 222 USPQ 747 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1053 (1985).

OPINION

A. Sufficiency of the Motion for Directed Verdict

Before reaching the merits of the infringement question, we address a procedural issue raised by Malta. Malta argues that Schulmerich's motion for a directed verdict was insufficient to support the JNOV motion that was later granted by the district court.

Rule 50(a) of the Federal Rules of Civil Procedure states that a "motion for directed verdict shall state the specific grounds therefor." Fed. R. Civ. P. 50(b) allows for entry of JNOV only "in accordance with the party's motion for a directed verdict." *Orthokinetics Inc. v. Safety Travel Chairs Inc.*, 806 F.2d 1565, 1579, 1 USPQ2d 1081, 1091 (Fed. Cir. 1986) (Ground on which JNOV motion is based must have been asserted in a motion for directed verdict. Issue of willfulness of infringement is not the same thing as issue of infringement).

The record shows that at the close of Malta's case at the trial in the district court, Schulmerich's counsel moved orally for directed verdict as follows:

> [V]ery briefly we move for a directed verdict on the issue of noninfringement of claims 2 and 3 of the 082 patent on the grounds that the evidence is insufficient.

After the close of all the evidence, counsel stated that this motion was renewed.

Malta argues that such general allegations of insufficiency of the evidence are insufficient to support a JNOV motion that was granted because of a lack of particularized function/way/result testimony and linking argument. We disagree. As is clear from the infringement discussion in section B, infra, the district court correctly granted Schulmerich's motion for JNOV because Malta failed to present sufficient evidence to the individual function/way/result elements of the *Graver Tank* equivalency test. That is to say, the evidence of

infringement of claim 3 was insufficient, which was the basis of the motion for directed verdict.

The trial judge's initial order filed Nov. 21, 1989, began by stating "Because the evidence does not prove the essential elements of plaintiffs' case, the [defendants'] motion for judgment n.o.v. must be granted." The next day the judge signed another order supplementing the first order saying it "is reopened and judgment is hereby entered for defendant as if the verdict requested at the close of the evidence had been directed. Fed. R. Civ. P. 50(b)."

Clearly the trial judge had no doubt, nor do we, that the ground stated in support of the first motion for directed verdict and in support of the motion for JNOV were one and the same. The latter therefore was supported as required by Fed. R. Civ. P. 50(a) and (b). Malta's argument to the contrary is without merit.

B. Infringement and the Doctrine of Equivalents

To convince this court that a trial judge erred in granting a motion for JNOV, an appellant must show that there was substantial evidence to support the jury's factual findings, and that those findings can support the jury's legal conclusion. *Orthokinetics,* 806 F.2d at 1571, 1 USPQ2d at 1085.

In order to prove infringement under the doctrine of equivalents, a patentee must show that the accused device performs substantially the same function in substantially the same way to achieve substantially the same result as the claimed device. *Graver Tank,* 339 U.S. at 608 (85 USPQ at 330). The "substantially the same way" prong of this test may be met if an equivalent of a recited limitation has been substituted in the accused device. *See Corning Glass Works v. Sumitomo Elec. U.S.A. Inc.,* 868 F.2d 1251, 1259, 9 USPQ2d 1962, 1967 (Fed. Cir. 1989). The issues of infringement and of equivalency are issues of fact. *Sun Studs Inc. v. ATA*

Equip. Leasing Inc., 872 F. 2d 978, 986, 10 USPQ2d 1338, 1345 (Fed. Cir. 1989).

As an initial matter, Malta contends that the trial judge erred in his grant of JNOV when he stated that a patentee

> must substantiate all three aspects of equivalency, per *Graver Tank*, as to each limitation of a claim in order to establish equivalence between claim and accused device.

This court has never adopted the three prong approach to determining equivalency of a *limitation*. In *Pennwalt Corp. v. Durand-Wayland Inc.*, 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987) (in banc), *cert. denied*, 485 U.S. 961 (1988), this court upheld a finding of no infringement involving the doctrine of equivalents because the patentee did not establish the presence, in the accused device, of every claim element[4] "or its substantial equivalent." *Pennwalt*, 833 F.2d at 935-36, 4 SPQ2d at 1740-41 (claimed *function* found missing). *Pennwalt* did not set forth a test as to *how* one proves that an element in an accused device is the "substantial equivalent" of a claim limitation directed to a single element in dispute – here the "buttons."

In the subsequent *Corning Glass* case, 868 F.2d at 1260, 9 USPQ2d at 1968-69, we stated

> This court has not set out in its precedent a definitive formula for determining equivalency between a required limitation or combination of limitations and what has been allegedly substituted therefor in the accused device. Nor do we propose to adopt one here. We note that the district court resolved the question by comparison of the function/way/result of the substitution with the function/way/

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4. In this context, the word "element" refers to a *limitation* of the claim, and not necessarily to a component of the claimed device. *See Corning Glass*, 868 F.2d at 1259, 9 USPQ2d at 1968.

> result of the limitation in the context of the invention; that is, the court made a subsidiary analysis comparable to the overall function/way/result analysis mandated for determining infringement under the doctrine of equivalents.
>
> * * * *
>
> The district court's "function/way/result" equivalency analysis with respect to a claim limitation appears to be a helpful way to approach the problem and entirely in accord with the analysis actually made in *Graver Tank* . . . .

Thus, while comparison of function/way/result is an acceptable way of showing that structure in an accused device is the "substantial equivalent" of a claim limitation, it is not the only way to do so, and to this extent, the trial judge in the present case did err. However, this error is harmless.

How equivalency to a required limitation is met necessarily varies from case to case due to many variables such as the form of the claim, the nature of the invention defined by it, the kind of limitation that is not literally met, etc. For example, the fact situations in *Corning Glass* and in this case are simply not comparable, yet application of the doctrine must be adapted to each, which is why the *Corning* panel declined to propose a formula of general applicability for determining equivalency to a claim limitation. *See Hughes Aircraft Co. v. United States,* 717 F.2d 1351, 1361, 219 USPQ 473, 480 (Fed. Cir. 1983) ("The doctrine is judicially devised to do equity").

Malta's proofs lack evidence to prove either that all three prongs of the *Graver Tank* test are met or that the "buttons" limitation was met equivalently. The evidence Malta principally points to is the following two portions of the testimony of Jacob Malta (emphasis ours):

Q: Would you make that clear as to what the structure is in the Schulmerich bell that corresponds to the buttons that are recited in the claim?

A: All right. The structure is these portions of the clapper, in this case the opposed felt pieces, and adjacent thereto on each side these elliptical spots of green, indicating that there are additional pairs of opposed striking surfaces.

Q: Striking surfaces. Would you go on with your explanation of how the portion illustrated in color in the exhibit corresponds to the claim language?

A: Right. The — as I described, we have a plurality of buttons, there's three sets, *buttons or the equivalent thereof,* and they are in opposed pairs around the periphery. We've described how they are related to these indexing slots in the underside of the brass clapper insert, and each pair has a different degree of hardness, we've described that. Here again we have felt which produces a soft impact sound. Here, this would be in relation to this slotted portion here where we have a slot in the core and at 180 degrees another slot, that would be the medium impact position. And then the lowermost one would be the — this one opposed to this where we have a solid plastic material in the impact plane producing a brilliant sound.

and:

Q: And Claim 3 includes as a part of the striker assembly the phrase, "A plurality of striking buttons positioned in opposed pairs around the outer periphery thereof wherein each pair of buttons is a different degree of hardness," correct?

A: That's right.

Q: Do you find those buttons in [the accused] structure?

A: Yes, there are buttons per se here, the felt, the opposed felt certainly are visible buttons. The opposed locations or surfaces which are related to these long slots are likewise buttons and the opposed pair of solid portions again are buttons.

Q: Do you mean they're buttons or function like buttons?

A: They function like buttons . . . .

This court in *Lear Siegler,* following *Nestier,* held that a patentee must prove substantial identity as to each of the function, way, and result prongs of the doctrine of equivalents. *Lear Siegler,* 873 F.2d at 1425, 10 USPQ2d at 1770, *Nestier,* 739 F.2d at 1579-80, 222 USPQ at 750. As the court noted in *Lear Siegler,* such proof is necessary to prevent the jury from being "put to sea without guiding charts," and from determining infringement by simply comparing the claimed invention and the accused device "as to overall similarity." *Lear Siegler,* 873 F.2d at 1426-27, 10 USPQ2d at 1770-71.[5]

With this requirement in mind, we agree with the district court that the evidence was insufficient to support a finding of infringement under the doctrine of equivalents. Malta's brief to this court discusses the above testimony at great length, explaining how this testimony informs the jury of the function, way, and result achieved by the accused device. However, what is

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5. The dissent has attempted to draw out the function, way, and result achieved by the accused and claimed devices from the testimony quoted in the dissenting opinion. However, its conclusion as to what those functions, ways, and results are does not come from the testimony itself but from Malta's appeal brief and from its own conjecture. While *Lear Siegler* does not go so far as to require recitation of the magic words "function", "way", and "result", we think that it at least requires the *evidence* to establish *what* the function, way, and result of *both* the claimed device and the accused device are, and *why* those functions, ways, and results are substantially the same.

clearly lacking in that testimony is a sufficient explanation of both *why* the overall function, way, and result of the accused device are substantially the same as those of the claimed device and why the plastic/slotted plastic/felt arrangement is the equivalent of the claimed buttons limitation. Mr. Malta's offhand and conclusory statements ("buttons or the equivalent thereof" and "They function like buttons") are not sufficiently particularized evidence. In short, with little guidance, the jury was left to its own imagination on the technical issue of equivalency.

There is no other evidence in the case which provides the necessary "substantial evidence" on the issue of infringement under the doctrine of equivalents. The '082 patent itself has the following to say about the two embodiments of Figs. 3 and 7 (Col. 4, 11. 46-48):

> Another form of clapper is depicted in Fig. 7. It has all of the advantages of the one shown in Fig. 3 but varies in design, flexibility and simplicity.

Thus, while the two embodiments are described as being alternatives to each other, they are not equivalent in "way". Further, the patent specifically uses the term "striking surfaces" with respect to the embodiment of Fig. 3, but uses the different term "buttons" with respect to Fig. 7. The claims of the patent maintain this distinction; claim 2 describes the surface of the clapper using the broad term "surface portions," while claim 3 uses the narrower term "buttons." Though application of the doctrine of equivalents extends the protection of the patent beyond the literal words of the claims, it is not proper "to erase a plethora of meaningful structural and functional limitations of the claim on which the public is entitled to rely in avoiding infringement." *Perkin-Elmer Corp. v. Westinghouse Elec. Corp.*, 822 F.2d 1528, 1532, 3 USPQ2d 1321, 1324 (Fed. Cir. 1987). In the present case, where Malta employs a broad term in one claim, but a narrower term, used with respect to only one embodiment in the specification, in another claim, the

implication is that infringement of the second claim can be avoided by not meeting the narrower term.

In sum, we agree with the district court that Malta failed to present evidence sufficient to support a finding of infringement of claim 3 under the doctrine of equivalents, and we therefore uphold the court's grant of JNOV.

C. "Retroactive Application of Lear Siegler"

Malta argues that it is improper to retroactively apply the holding of *Lear-Siegler* to this case, citing *Chevron Oil Co. v. Huson,* 404 U.S. 97 (1971), since *Lear Siegler* allegedly established a new principle of law. However, as noted in the previous two sections, *Lear Siegler* merely requires that a patentee prove all elements of his case, which, with respect to the doctrine of equivalents, means that a patentee must prove that each prong of the *Graver Tank* equivalency test is met. While *Lear Siegler* set forth this requirement in language particularly suitable to the present jury case, we do not agree that *Lear Siegler* established any new principle of law. Reading the opinion is enough to show that the district court was right in saying (n. 7): "*Lear Siegler* merely repeats in so many words the explication of *Nestier.*" *Nestier* was decided in 1984. This case was not tried until 1988. There has been no retroactive application of law.

D. Schulmerich's Cross-Appeal

Having upheld the district court's determination of non-infringement, we need not and do not reach the issues of equitable ownership and shop right raised in Schulmerich's cross-appeal. Schulmerich's brief states:

> If this Court affirms the trial court in relation to the grant of JNOV due to the failure of proof at trial by Malta/Malmark, it need not consider Schulmerich's cross-appeal on the issue of co-ownership.

E. The Dissent

With all respect to the dissent, *we* are not rejecting a jury verdict or making a de novo determination of infringement. We are reviewing the *district court's* judgment notwithstanding the jury verdict, the district court which tried the case, heard all the evidence including Mr. Malta's self-serving testimony and opinions about claim construction together with his elaborate illustrations so laboriously listed in the dissent. What we are affirming is the judgment of the fully informed district judge based on his holding that the *evidence was insufficient* to support a finding of infringement under the doctrine of equivalents, a doctrine the application of which enlarges the coverage of the patent beyond what is defined in the claims. We are following the instruction of the Supreme Court in *Graver Tank,* 339 U.S. at 610, referring to the application of the doctrine, that:

> It is to be decided by the trial court and that court's decision, under general principles of appellate review, should not be disturbed unless clearly erroneous.

In essence, what we are affirming is the district court's decision that, in view of all the evidence, this is not a case in which the doctrine of equivalents can be applied, that being the only basis on which Malta can contend that his patent is infringed. The district court's detailed opinion of November 21, 1989 discussed the doctrine of equivalents and its proper application at great length and came to the correct conclusion that "Plaintiffs offered no more than brief, conclusory evidence that the Schulmerich bell contains the equivalent of the disputed buttons." That is what we are reviewing, not the jury verdict, and we will not disturb it. For this court's most recent views on application of the doctrine of equivalents, see *London v. Carson Pirie Scott & Co.,* 946 F.2d 1534, 20 USPQ2d 1456 (Fed. Cir. 1991).

CONCLUSION

For all of the above reasons, the judgment of the district court is affirmed.

AFFIRMED

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

No. 90-1250,-1269

JACOB H. MALTA and MALMARK, INC.,
Plaintiffs-Appellants,

v.

SCHULMERICH CARILLONS, INC., and
RONALD O. BEACH,
Defendants/Cross-Appellants,

and

KELLY-MICHENER, INC., and
THE HANDCHIME COMPANY, LTD.,
Defendants.

MICHEL, *Circuit Judge,* concurring.

I agree that the district court's grant of JNOV to defendants must be affirmed, and I join in Judge Rich's opinion. I enter this concurrence only to emphasize that our ground of decision is required implicitly by *Graver Tank and Mfg. Co. v. Linde Air Prods. Co.,* 339 U.S. 605, 85 USPQ 828 (1950) and explicitly by *Lear Siegler, Inc. v. Sealy Mattress Co.,* 873 F.2d 1422, 10 USPQ2d 1767 (Fed. Cir. 1989). For me what is fatal in this record is the failure of Mr. Malta to separate and explicate his comparative analysis of "way" from his comparison of "function" and "result," and to substantiate it. All three requirements of *Graver Tank* were discussed together, with only two fleeting, conclusory and inferential references to way. Consequently, there was insubstantial evidence of infringement under the doctrine of equivalents as to way, and therefore the verdict of infringement under the doctrine cannot be sustained.

I. THE LAW

In *Lear Siegler,* 873 F.2d at 1425-26, 10 USPQ2d at 1770, this court clarified a specific requirement that *must* be met before the question of infringement under the doctrine of equivalents may be submitted to the trier of fact for decision. To survive a motion for a directed verdict or a JNOV, a patentee must present "substantial evidence" *comparing* the claimed and accused inventions to one another as to each of the three aspects of equivalency set forth in *Graver Tank,* 339 U.S. at 608, 85 USPQ at 330 – "function," "way," and "result." *Lear Siegler,* 873 F.2d at 1425-26, 10 USPQ2d at 1770. In *Lear Siegler,* we said

> [t]he party asserting infringement must present "*evidence* and *argument* concerning the doctrine and *each* of its *elements*." . . . While we do not doubt the ability of a jury to decide the factual issue of equivalence, to enable the jury to use its ability, *Nestier* requires that the three *Graver Tank* elements must be presented in the form of particularized testimony and linking argument.

873 F.2d at 1425-26, 10 USPQ2d at 1770 (citing *Nestier Corp. v. Menasha Corp.-Lewisystems Div.,* 739 F.2d 1576, 1579, 222 USPQ 747, 749 (Fed. Cir. 1984) (5-judge panel), *cert. denied,* 470 U.S. 1053 (1985) (emphasis in original)) . Thus, under *Nestier Corp.* and *Lear Siegler,* substantial evidence of *comparison* as to function, way, and result is required as part of the patentee's *prima facie* case of infringement under the doctrine. Therefore, if the comparison evidence is not substantial, the issue may not be submitted to the jury. Or, if the trial court erred and the jury was allowed to decide the issue and returned a verdict for patentee, JNOV must be granted.

We have also held that the comparison as to each *Graver Tank* element must be made "explicitly" and "separately." *Lear Siegler,* 873 F.2d at 1425-26, 10

USPQ2d at 1770. Consequently, a jury verdict of infringement under the doctrine can only survive a motion for JNOV if substantial evidence was presented that explicitly and separately compares the function/way/result of the accused device with the function/way/result of the claimed invention to show that they are substantially the same. That was not done here as to way.

Compliance with *Lear Siegler* is a question of law, which we review *de novo.* On a motion for directed verdict or JNOV, the trial judge must decide such an issue of law by assessing whether evidence of comparison that is substantial, separate and explicit was introduced by the patentee as to each aspect of infringement by equivalents. *See Senmed Inc. v. Richard-Allan Medical Indus.*, 888 F.2d 815, 818, 12 USPQ2d 1508, 1511 (Fed. Cir. 1989).

II. THE LAW APPLIED TO THIS CASE

The trial judge conducted such an assessment here. In reviewing this legal issue *de novo,* we decide he was correct in concluding the evidence was not substantial.

As the dissent details, in the instant case extensive evidence was presented about how the striking surfaces of the accused bell work. The jury was not separately and explicitly told, however, that drilling slots behind striking surfaces on a clapper made of the *same* plastic material is an equivalent "way" compared to attaching striking buttons made from *different* materials. To be sure, the jury was told and shown that the "function" and "result" of their clappers striking the bells were the same, and indeed these two aspects of equivalency are all but uncontested. And, while explaining the similarity of function and result, Mr. Malta may have briefly implied that the way was also essentially the same, the jury certainly was not told how and why that was so. In other words, plaintiff's separate and explicit comparison evidence was sufficient to establish only two of the three *Graver Tank* requirements. The testimony as to "way"

was not substantial. Nor was it separate and explicit. Rather, it was brief, intermingled, inferential and conclusory. Because *Lear Siegler* clearly requires separate, explicit and substantial comparison evidence as to all three requirements, the case should not have been submitted to the jury, and thus the jury verdict cannot stand.

III. THE DISSENT

The dissent suggests that the majority has added "a new requirement of proof of equivalency: proof of not only the three *Graver Tank* 'prongs' of 'function, way, and result', but also a fourth prong of 'why'." Such a characterization of the majority's holding is inaccurate. Because often substantial proof of equivalence of "way" can be made only by an explanation of "how and why," the apparently separate requirement of proof of "why" is actually only an elaboration on the requirement of equivalence as to "way."

To my mind, it is clearly no answer to point, as does the dissent, to the great quantity of evidence on the general operation of *each* of the two bells at issue in this case, *i.e.,* the commercial embodiment of the claimed bell and the accused bell. No amount of purely descriptive evidence about either can suffice, absent separate, explicit and substantial comparison evidence that the clapper "striking surfaces" work in the same "way" as the "buttons."

That the instructions did not contain erroneous statements of law, were reasonably comprehensive, and went unchallenged is immaterial. Defendants did move for a directed verdict, both at the end of plaintiffs' case and again at the close of all the evidence. The stated ground was insufficiency of the evidence on infringement. No reason has been advanced why they should also be required to make the vain gesture of objecting to a facially proper charge of infringement by equivalents. In any event, Fed. R. Civ. P. 50(b) explicitly states that

whenever a motion for directed verdict is denied, "the court is deemed to have submitted the action to the jury subject to a later determination of the legal questions raised by the motion." As was noted earlier, compliance with *Lear Siegler* is a legal question.

Moreover, *Lear Siegler* is based on the very premise that sufficiency of instructions cannot cure an insufficiency of proof as to the three *Graver Tank* requirements. The reason we do not allow curing by instructions is that even with perfect jury instructions, determining infringement by equivalents would still be guesswork for a jury unless it is given separate, explicit and substantial evidence of comparison as to each requirement of *Graver Tank*. After all, such comparisons are what infringement by equivalents is all about. As the district court noted, the danger that *Lear Siegler,* building directly on *Nestier Corp.,* is designed to prevent is that of the doctrine of equivalents becoming "a result oriented catch-all." *Malta v. Schulmerich Carillons, Inc.,* 13 USPQ2d 1900, 1903 (E.D. Pa. 1989).

The simplicity of the bells, so emphasized by the dissent, is not relevant either. In *Lear Siegler,* the devices at issue – mattress springs – were equally simple and in no manner implicated complex technology. However, the rule of *Lear Siegler* is a prophylactic rule of general applicability. As such, it must cover the whole range of infringement cases, many of which do indeed involve complex technology. I would agree, though, that the more complex the technology, the greater the need for the rule. But that is not to say there can be *any* case where this rule does not apply. In requiring sufficient evidence on each aspect of equivalence, *Lear Siegler* merely makes explicit what *Graver Tank* implied.

Nor is it relevant that, as the dissent notes, slots in the clapper material were well known in the prior art, for the obviousness of the "way" cannot explicate for judge or jury that it is equivalent, *i.e.,* substantially the same, much less how and why. That clapper surfaces with

slots were known as an *alternative* to buttons of differing materials does not necessarily make them an *equivalent*. In fact, obviousness is simply non-probative of the three-part test of equivalence.

Contrary to the dissent, the rule of *Lear Siegler* does not implicate the jury's prerogatives, under the Constitution, the case law, the Federal Rules of Civil Procedure, or otherwise. It simply addresses whether the evidence is sufficient to permit submission of the issue to the jury at all. It is thus a rule that restricts judges, not jurors.

The dissent also suggests that Schulmerich's failure to request jury instructions on the rule of *Lear Siegler* means Schulmerich waived the protections of the rule. As a rule that restricts judges and not jurors, its purpose is to establish when the issue of infringement by equivalents may be given to the jury. It is thus not subject to waiver because of suggested jury instructions, or the lack thereof.

Finally, contrary to the suggestion of the dissent, in my view there is not a genuine issue of retroactive application of new law. While Judge Rich's opinion relies primarily on statements in *Nestier Corp.*, decided *before* the trial of this case, as first setting forth the requirement restated in *Lear Siegler,* decided *after* this trial, to overcome the dissent's argument on retroactivity, there is a simpler answer. I submit that requiring separate, explicit and substantial comparison evidence of each of the three *Graver Tank* aspects of equivalency has been the law at least since 1950 when *Graver Tank* itself was decided. If *Lear Siegler* added gloss thereto, it was on peripheral points not dispositive here, such as the requirement of "testimony" (as opposed to other forms of evidence) and "linking argument" (which, being only attorney assertions, is of course not evidence at all).

IV. CONCLUSION

Generally speaking, both the purpose and effect of the rule of *Lear Siegler* are to minimize the risk that a jury will find infringement under the doctrine of equivalents merely because one or two of the three *Graver Tank* requirements is met, ignoring the other(s) or blindly assuming the other(s) must be met, too. Thus, *Lear Siegler* requires that before a case may be submitted to a jury, a patentee's proof must include substantial evidence of separate and explicit *comparison* of the claimed and accused devices as to each of the three *Graver Tank* requirements. A case based solely on *descriptive* evidence, no matter how extensive, may not go to the jury. Nor may a case lacking separate, explicit and substantial evidence on each of the *Graver Tank* requirements of equivalence.

Here, no separate and explicit comparison evidence at all was presented as to whether, how and why the clapper surfaces of the *same* plastic material with slots drilled behind them operated in the same "way" as the striking buttons made of materials of different hardness. Instead, brief, inferential and conclusory references to way were buried in answers dealing primarily with function and result. That is not substantial evidence and the jury certainly would not appreciate it as evidence of way. Thus, an error of law occurred in submitting the case to the jury.

I join Judge Rich's opinion affirming the district court's judgment of no infringement despite the verdict. I set forth these concurring views in order to clarify *Lear Siegler*.

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v.

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RONALD O. BEACH,
Defendants/Cross-Appellants,

and

KELLY-MICHENER, INC., and
THE HANDCHIME COMPANY, LTD.,
Defendants.

NEWMAN, *Circuit Judge,* dissenting.

I respectfully dissent, for neither the law nor the record provides a basis for overturning the jury's verdict. Upon full trial, upon agreed and correct jury instructions, upon substantial evidence in the form of testimony and exhibits and demonstrations, a reasonable jury could have reached the verdict of infringement reached by this jury. That ends our review. With all respect to my colleagues on this panel, their rejection of the jury verdict and *de novo* determination of the factual issue of infringement is contrary to the law governing appellate review of jury verdicts.

The questions of infringement and equivalency were decided by the jury. *See Gunning v. Cooley,* 281 U.S. 90, 94 (1930) ("Issues that depend on the . . . weight of evidence are to be decided by the jury."); *Baltimore & Ohio R. Co. v. Groeger,* 266 U.S. 521, 524 (1925) ("the weight and probative value of evidence are to be determined by the jury and not by the judge"). A reasonable jury, correctly instructed, viewing all the

evidence presented at trial of the case here under review, could have found infringement by equivalency. Our role is appellate review, not trial *de novo. See Gallick v. Baltimore & Ohio R. Co.,* 372 U.S. 108, 112-14 (1963) (the appellate court improperly invaded the jury's function and province in its holding that the evidence at trial of a causal connection fell short of that required for the consideration of a jury).

As the Court stated in *Anderson v. City of Bessemer City,* 470 U.S. 564, 574-75 (1985), the trial on the merits is "the 'main event' . . . rather than a 'tryout on the road' ", quoting *Wainwright v. Sykes,* 433 U.S. 72, 90 (1977). When the relationship between trial and appellate tribunals is distorted, the consequences disserve the public and the courts:

> The principal consequences of broadening appellate review are two. Such a course impairs the confidence of litigants and the public in the decisions of the trial courts, and it multiplies the number of appeals.

C. Wright, *The Doubtful Omniscience of Appellate Courts,* 41 Minn. L.Rev. 751, 779 (1957).

A
Appellate Review

The standard of judicial review of jury verdicts is established. Sometimes described as a "reasonable jury" standard and sometimes as a "substantial evidence" standard, the challenger must show that there was not an evidentiary basis for the verdict. As discussed by the Court:

> But where, as here, there is an evidentiary basis for the jury's verdict, the jury is free to discard or disbelieve whatever facts are inconsistent with its conclusion. And the appellate court's function is exhausted when that evidentiary basis becomes apparent, it being immaterial that the court might

> draw a contrary inference or feel that another conclusion is more reasonable.

Lavender v. Kurn, 327 U.S. 645, 653 (1946). This standard has its roots in the Constitution and in tradition, for the principles underlying the jury right require that the jury verdict receive judicial deference.

Many illustrations of the requisite standard of appellate review of jury verdicts appear in the precedent of the Third Circuit.[1] *E.g., Chuy v. Philadelphia Eagles Football Club,* 595 F.2d 1265, 1273 (3d Cir. 1979) (*en banc*) ("Our limited function at this point is to ascertain from review of the record whether there is sufficient evidence to sustain the verdict of the jury on this issue"); *Dawson v. Chrysler Corp.,* 630 F.2d 950, 950 (3d Cir. 1980), *cert. denied,* 450 U.S. 959 (1981) (the jury verdict must be sustained unless the record "is critically deficient of that minimum quantum of evidence from which a jury might reasonably afford relief"), quoting *Denneny v. Siegel,* 407 F.2d 433, 439 (3d Cir. 1969).

Federal Circuit decisions have well illustrated this standard. *E.g., Orthokinetics, Inc. v. Safety Travel Chairs, Inc.,* 806 F.2d 1565, 1571, 1 USPQ2d 1081, 1085 (Fed. Cir. 1986):

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1. The Federal Circuit follows the rule that the procedural law of the trial court is not affected by the path of appellate review, thereby avoiding unnecessary conflict and confusion in the trial courts of the nation. *Panduit Corp. v. All States Plastic Mfg. Co.,* 744 F.2d 1564, 1574-75, 223 USPQ 465, 471 (Fed. Cir. 1984). For similar reasons, the Federal Circuit applies the substantive law of the regional circuit to matters not unique to patent law. *Atari Corp. v. JS & A Group, Inc.,* 747 F.2d 1422, 1438-40, 223 USPQ 1074, 1086-87 (Fed. Cir. 1984) (*en banc*).

Thus we look to Supreme Court and Third Circuit precedent for explication of the standard of review of jury verdicts, *see Newell Companies, Inc. v. Kenney Mfg. Co.,* 864 F.2d 757, 761 n.1, 9 USPQ2d 1417, 1420 n.1 (Fed. Cir. 1988), *cert. denied,* 493 U.S. 814 (1989), taking note that this standard does not vary significantly among the circuits, *see* 5A *Moore's Federal Practice* ¶50.07[2] (2d ed. 1985), including until today the Federal Circuit.

> To convince this court that a trial judge erred in granting a motion for JNOV, an appellant need only show that there was substantial evidence to support the jury's findings and that those findings can support the jury's legal conclusion.

Also, e.g., DMI, Inc. v. Deere & Co., 802 F.2d 421, 425, 231 USPQ 276, 278 (Fed. Cir. 1986) (to reverse the jury, the findings must not be supported by substantial evidence); *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.,* 758 F.2d 613, 619, 225 USPQ 634, 636 (Fed. Cir.), *cert. dismissed,* 474 U.S. 976 (1985) (determining from the evidence as a whole whether there was substantial evidence in support of the jury verdict); *Perkin-Elmer Corp. v. Computervision Corp.,* 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir.), *cert. denied,* 469 U.S. 857 (1984) ("only when the court is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the non-mover, should it grant the motion for JNOV.")

On judicial review following a duly made motion for judgment n.o.v, the evidence must be viewed and reasonable inferences drawn in the light most favorable to the party with the jury verdict. *Continental Ore Co. v. Union Carbide & Carbon Corp.,* 370 U.S. 690, 696 (1962); *Danny Kresky Enterprises Corp. v. Magid,* 716 F.2d 206, 209 (3d Cir. 1983); *Chuy,* 595 F.2d at 1273. The reviewing court is not free to reweigh the evidence or substitute its own judgment for that of the jury, *Blair v. Manhattan Life Ins. Co.,* 692 F.2d 296, 300 (3d Cir. 1982), or to pass on the credibility of witnesses. *Kinnel v. Mid-Atlantic Mausoleums, Inc.,* 850 F.2d 958, 961 (3d Cir. 1988).

> Those functions are assigned to the fact-finder, in this case the jury. Our function is to determine only whether there is evidence upon which the jury

> could properly return a verdict, viewing the evidence most favorably to Kinnel the non-movant, and giving Kinnel the benefit of all reasonable inferences.

Id. at 961-62.

The Federal Circuit is in accord. *E.g., Orthokinetics,* 806 F.2d at 1572-73, 1 USPQ2d at 1085-86 (it is "a misunderstanding of our appellate role" for this court to determine what is supported by the evidence as a whole, rather than whether the evidence the jury could have believed was substantial); *Connell v. Sears, Roebuck & Co.,* 722 F.2d 1542, 1546, 220 USPQ 193, 197 (Fed. Cir. 1983) (the appellate court must consider all the evidence in the light most favorable to the non-movant, must not determine the credibility of witnesses, and must not substitute its choice for that of the jury in finding facts, drawing inferences, or deciding between conflicting elements in the evidence). These are functions of the trier of fact, not the reviewing court.

These precepts are not here followed. The panel majority has rejected the jury verdict, although it is supported by substantial evidence and could clearly have been reached by a reasonable jury. Indeed, the panel majority has ignored much of the evidence that was presented at trial; see Part B *post*. The majority instead imposes the new requirements of "particularized testimony and linking argument" that were set forth in *Lear-Siegler, Inc. v. Sealy Mattress Co.,* 873 F.2d 1422, 10 USPQ2d 1767 (Fed. Cir. 1989). These requirements, which apply solely to jury trials, were not referred to at the trial, for *Lear-Siegler* was decided eight months after this jury verdict was rendered.[2]

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2. The panel majority states that *Lear-Siegler* merely repeats an earlier ruling in *Nestier Corp. v. Menasha Corp.-Lewisystems Div.,* 739 F.2d 1576, 222 USPQ 747 (Fed. Cir. 1984). *Lear-Siegler* itself described this aspect of *Nestier* as *dictum*, for in *Nestier* the issue of equivalency was waived at trial, and this court held on appeal simply that it was not error for the trial court to have refused

These new requirements are not trivial. They demand a certain stylized testimony and specified attorney argument when trial is to a jury. As compared with trial to the bench, these requirements must be fulfilled no matter how simple the invention. The court holds that if this extra testimony and extra argument are omitted, the case can not go to the jury at all – no matter whether the evidence might suffice were the trial to the court. The panel majority, applying *Lear-Siegler* to remove this case from the jury, has invoked a new requirement of proof of equivalency: proof of not only the three *Graver Tank* "prongs" of "function, way, and result", but also a fourth prong of "why".

It is contrary to due process to revise the evidentiary and procedural burdens of the trial after the jury's verdict has been rendered. Were these new criteria for jury trials indeed required to be applied to this case, then in the interest of justice a new trial, not reversal of the jury verdict, is the appropriate remedy. *See Cone v. West Virginia Pulp & Paper Co.,* 330 U.S. 212, 216 n.4 (1947) (court always has discretion, when justice requires, to order a new trial); *Roebuck v. Drexel University,* 852 F.2d 715, 735-36 (3d Cir. 1988) (granting new trial when verdict contrary to the great weight of evidence); 9 C. Wright & A. Miller, *Federal Practice and Procedure,* §2539 at 608 (2d ed. 1971) (court may grant new trial when verdict is against the great weight of the evidence, even when there is insufficient basis for granting judgment n.o.v.)

In addition, as I shall discuss, even these new requirements were met in this thoroughly presented case. Even on the legal and evidentiary standards

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to give a jury instruction on an issue that was not before the jury. "In a jury trial, a court should not instruct on a proposition of law about which there is no competent evidence." *Nestier,* 739 F.2d at 1579, 222 USPQ at 750. Not until *Lear-Siegler* did a panel of this court impose the special rules now relied on.

adopted by the panel majority, there is not sufficient basis for reversal of this jury verdict.

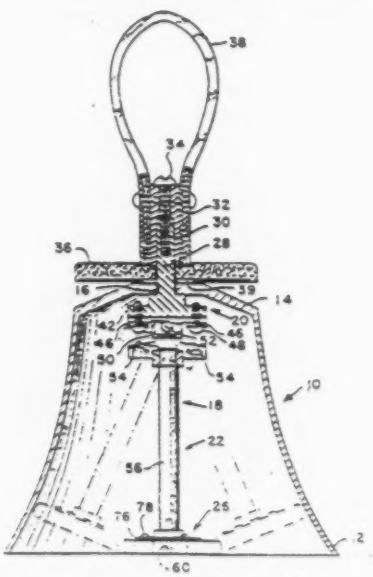
B

The Trial

The patented invention of Jacob H. Malta is a musical handbell that can be rapidly adjusted so that the bell tone is changed "on the fly" during performance of a musical composition. It is not a complicated device.

Because of the rapid adjustability of the bells that Malta invented, performers have achieved musical effects not previously available in the old, indeed ancient, art of handbell music. After this handbell was produced, composers of handbell music adopted a new system of notation for handbell scores. Music for handbells was now written that could not have been performed before. Patent validity was conceded at trial.

The patent drawing shows the Malta bell:



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Claim 3, the only claim at issue, is directed to the entire bell, as discussed *infra*. The rotation of the clapper to change the striking surface, thereby changing the bell tone, was well known. The novel contribution of the Malta bell to the art was the mechanism for rapid adjustment of the clapper during performance; that aspect is not here challenged. The issue on this appeal is the jury verdict of equivalency, a verdict that required the jury to consider certain known, interchangeable clapper structures.

Infringement is a question of fact, *Intervet America, Inc. v. Kee-Vet Laboratories, Inc.*, 887 F.2d 1050, 1053, 12 USPQ2d 1474, 1476 (Fed. Cir. 1989), as is the question of equivalence, *Graver Tank & Mfg. Co., Inc. v. Linde Air Products Co.*, 339 U.S. 605, 609, 85 USPQ 328, 331 (1950); *Radio Steel & Mfg. Co. v. MTD Products, Inc.*, 731 F.2d 840, 847, 221 USPQ 657, 662 (Fed. Cir.), *cert. denied*, 469 U.S. 831 (1984). At the trial extensive evidence was adduced on the issues both of literal infringement and infringement in accordance with the doctrine of equivalents. These questions are the province of the jury. *Royer v. Schultz Belting Co.*, 135 U.S. 319, 325 (1890); *Carver v. Hyde*, 41 U.S. (16 Pet.) 513, 520 (1842); *Sun Studs, Inc. v. ATA Equipment Leasing, Inc.*, 872 F.2d 978, 986, 10 USPQ2d 1338, 1345 (Fed. Cir. 1989); *Perkin-Elmer*, 732 F.2d at 900, 221 USPQ at 678. The jury found, *inter alia*, that claim 3 of the Malta patent was not literally infringed, but was infringed under the doctrine of equivalents. Infringement of claim 3 is the only issue on appeal.

Following is claim 3, clause by clause in accordance with the presentation at trial. Beneath each clause is a summary of the evidence of infringement as to each claim element. The evidence was methodically presented:

3. A handbell comprising in combination:

a bell having a generally closed end;

1. photograph of disassembled parts of bell with transparent overlay of claim text for this element
2. color drawing highlighting this element in accused bell
3. explained by witness
4. no contradictory evidence
5. actual bells were shown and handed to jury
6. this element was known in prior art bells

a clapper assembly adapted to be removably carried within said bell and centrally of the closed end thereof,

1. photograph of disassembled parts of bell with transparent overlay of claim text for this element
2. a second color drawing highlighting this element in accused bell
3. explained by witness
4. no contradictory evidence
5. this element was known in prior art bells

said assembly comprising a clapper shaft having one end pivotally associated centrally of the closed end of said bell and carrying a clapper member at its free extremity,

1. photograph of disassembled parts of bell with transparent overlay of claim text for this element
2. a third color drawing highlighting this element in accused bell
3. explained by witness
4. no contradictory evidence
5. this element was known in prior art bells

said clapper member comprising a generally circular striker assembly rotatably positioned substantially normal to said clapper shaft

1. photograph of disassembled parts of bell with transparent overlay of claim text for this element
2. a fourth color drawing highlighting this element in accused bell
3. explained by witness
4. no contradictory evidence
5. this element was known in prior art bells

and including a plurality of striking buttons positioned in opposed pairs around the outer periphery thereof and wherein each pair of buttons has a different degree of hardness;

1. photograph of disassembled parts of bell with transparent overlay of claim text for this element
2. a fifth color drawing highlighting this element in accused bell
3. explained by witness
4. no dispute as to presence of opposed pairs of striking elements positioned around the outer periphery of the clapper, each pair having a different degree of hardness

[the only dispute at trial was the equivalency of the striking buttons of the claim clause and the felt/plastic striking surfaces of the accused bells)

5. equivalency of the striking surfaces was explained and demonstrated using accused bell
6. both forms of striking surfaces were illustrated as alternatives in the patent in suit

7. both forms of striking surfaces were known in the prior art

means on said clapper assembly coacting with said rotatable striker assembly for permitting rotation of said striker assembly relative to said clapper shaft for selectively positioning desired pairs of buttons in striking relation to said bell;

1. photograph of disassembled parts of bell with transparent overlay of claim text for this element
2. a sixth color drawing highlighting this element in accused bell
3. explained and demonstrated by witness
4. demonstrated in videotaped performance
5. no contradictory evidence

[this was the first new element of the claimed bell; its presence in the accused bells was admitted]

and detent means cooperating with said rotatable striker for releasably holding said striker assembly in any preselected position.

1. photograph of disassembled parts of bell with transparent overlay of claim text for this element
2. a seventh color drawing highlighting this element in accused bell
3. explained and demonstrated by witness
4. demonstrated in videotaped performance
5. no contradictory evidence

[this was the other new element; its presence in the accused bells was admitted]

Mr. Malta was a principal witness on the question of infringement. He identified each of the elements of the

claims, and the corresponding element of the accused bells. The jury was shown 24" x 30" photographs of the details of disassembled bells, and Mr. Malta used transparent overlays identifying each part of the accused bells and the corresponding element in each claim.

He also testified with the aid of seven 24" x 30" drawings for each claim, each drawing highlighting in color a different part of the accused bells, and labelled to show the corresponding element of the claims. From these photographs and drawings, Mr. Malta compared each claim element with the corresponding element in the accused bells. The jury viewed a videotaped musical performance during which Malta stopped the tape to show the patented bells being quickly adjusted by the performers.

It was explained to the jury that what was new in Malta's bells was his means for rapidly changing the striking surfaces during a musical performance. Mr. Malta demonstrated how the clapper is rotated during performance and click-locked into the desired striking position: the new elements of the claimed combination. It was not disputed by Schulmerich that these new elements, as well as all the other elements of claim 3 except the form of the striking surfaces, were literally present in the accused bells.

Malta demonstrated to the jury how the different striking surfaces produced different tones. He explained to the jury that it was not new to use striking surfaces of different hardness on the bell clapper, in order to change the bell tone. The jury was shown bell clappers two hundred years old having this feature. Malta also explained that it was not new to use clappers having the striking surfaces illustrated in the patent; that these striking surfaces were known. The issue before the jury was simply the equivalence of the two sets of known striking surfaces that were described in the patent. There was substantial evidence of the equivalence of these striking surfaces. I shall discuss some of this evidence, for the panel majority does not.

For example, the patent specification shows the felt and plastic striking surfaces that are used in the accused bells, and also shows the button striking surfaces of claim 3. The patent specification discusses their relationship, and explains that the varying hardness of these surfaces varies the tone of the bell. These embodiments are illustrated in Figures 3 and 7 of the patent:

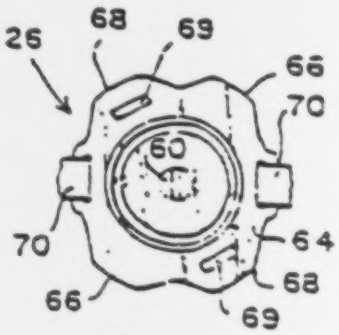

Fig. 3

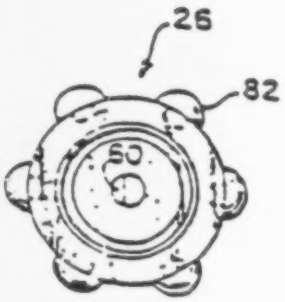

Fig. 7

Schulmerich did not dispute that the accused bells use the embodiment of Figure 3. In evidence was the patent specification, which describes the Figure 3 striking surfaces as follows:

> The striking surface of the ring 64 (of the clapper] may offer different hardness strike surfaces 68 thereabout for varying the tone. This is accomplished by drilling or molding relief portions 69 adjacent the surfaces. A third opposed pair of striking surfaces may also be provided wherein felt or some other relatively soft material is applied to opposed striking surfaces of the clapper 26. In this embodiment, the clapper will offer three opposed areas of strike, each with a different impact effect and available according to its position relative to the plane of swing of the clapper 26.

The specification also discusses the striking buttons of Figure 7, and relates them to the Figure 3 embodiment and to the invention as a whole:

> Opposed pairs of buttons 82 are of the same hardness and each opposed pair is of a different hardness to accomplish the same results as described in connection with the clapper shown in FIG. 3. It is apparent that other deviations may also be used without departing from the spirit of my invention which comprehends a manually adjustable clapper having a plurality of strike portions, in opposed relation and of different hardness, to selectively produce a variety of tonal effects.

I emphasize that the striking surfaces used in the Schulmerich bells, the only claim element for which equivalence was at issue, were described, as well as pictured, in the patent.[3] The patent specification describes how the hardness of the "strike portions" is varied, and how these alternative embodiments function to change the tone of the bell.

Malta explained all this at trial, with explicit reference to the claimed invention and the accused bells. He testified that the felt striking surfaces in the Schulmerich handbells (shown in Fig. 3 of the patent) function in the same way and with the same effect as the softest pair of buttons (Fig. 7) to produce a soft tone. He testified that the plastic striking surfaces (Fig. 3) and

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3. It is not necessary that alternatives be described in the patent in order to be equivalent. In *Graver Tank*, 339 U.S. at 609, 85 USPQ at 331, the Court stated: "An important factor is whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was." In *Atlas Powder Co. v. E. I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1580-81, 224 USPQ 409, 416-17 (Fed. Cir. 1984) this court held that the equivalent need not have existed at the time the invention was made, and could itself be a patentable invention. In Malta's case, however, the asserted equivalent was a known alternative, and was described in the patent document; this was explained to the jury.

the plastic surfaces with slots (Fig. 3) of the Schulmerich handbells function in the same way and with the same effect as the harder and medium pairs of buttons (Fig. 7) , to produce the brilliant and medium tones.

Malta also explained this correspondence between the striking surfaces of the claimed and the accused bells using a color-highlighted drawing labelled with the relevant claim clause. For example:

> Q: Would you make that clear as to what the structure is in the Schulmerich bell that corresponds to the buttons that are recited in the claim?
>
> A: All right. The structure is these portions of the clapper, in this case the opposed felt pieces, and adjacent thereto on each side these elliptical spots of green, indicating that there are additional pairs of opposed striking surfaces.
>
> Q: Striking surfaces. Would you go on with your explanation of how the portion illustrated in color in the exhibit corresponds to the claim language?
>
> A: Right. The — as I described, we have a plurality of buttons, there's three sets, buttons or the equivalent thereof, and they are in opposed pairs around the periphery. We've described how they are related to these indexing slots in the underside of the brass clapper insert, and each pair has a different degree of hardness, we've described that. Here again we have felt which produced a soft impact sound. Here, this would be in relation to this slotted portion here where we have a slot in the core and at 180 degrees another slot, that would be the medium impact position. And then the lowermost one would be the — this one opposed to this where we have a solid plastic material in the impact plane producing a brilliant sound.

Malta here, and elsewhere, did compare each pair of striking surfaces, and did explain to the jury the way the

various striking surfaces changed the tone of the bell. As further evidence of the equivalence of the striking surfaces, it was explained to the jury that the prior art '574 patent describes the same felt, plastic, and slotted plastic surfaces as were shown to be present in the accused bells, as were shown to be pictured in Figure 3 of the patent in suit, and as were discussed by Malta in his testimony. A 1902 catalogue of prior art bells, about which Malta also testified, shows "pins" of different materials on a rotatable clapper. Mr. Malta explained and demonstrated to the jury that the use of striking surfaces made from material of varying degrees of hardness was known in the prior art; and that the use both of striking buttons and striking surfaces made of felt, plastic, and plastic with slots, to produce varying degrees of hardness, was known in the prior art. This comports with the holding in *Graver Tank*, 339 U.S. at 609, 85 USPQ at 331, that proof of equivalence "can be made . . . by the disclosures of the prior art".

The panel majority, holding that there was insufficient evidence of equivalency to present the issue to a jury, appears to concentrate its attack on Malta's evidence of the "way" aspect of the function/way/result test of *Graver Tank*. The panel majority finds an inadequate showing of *why* the elements work in the same way.

Following is another example of the testimony in which Malta explained and demonstrated the "way" the bells work, by rotating the clapper and aligning the surfaces of varying degrees of hardness in the striking plane. The witness also explained "why", describing the felt surfaces, the slotted plastic, and the solid surfaces:

> Q: [E]xplain to the jury what you mean about changing the brightness or color. Demonstrate it . . . .
>
> A: May I demonstrate it?
>
> Q: . . . you will . . . certainly, certainly.

A: All right. Right now this clapper is aligned so that there are felt surfaces in the striking plane. The clapper is restricted in its motion so that it will only move through one plane, and it's going to be moving toward you. I'll ring it now. (Rings a bell.) There we've got a rather soft, mellow sound.

I turn it to the next indexing spot and this spot are the opposed surfaces contain cored in, molded in slots. These slots will allow the plastic surface to give, to compress. And in so doing the tone that results will be brighter because we do not have felt covering the surface, felt being softer, but it will not be as bright as it will in the next position which we'll use opposed surfaces where there are no cored slots. (Rings a bell.)

And now I'll dampen the bell and I've turned it already to the third position which utilizes solid surfaces and strike it. (Rings a bell.) And again we've got a brighter sound. I'll run through it now quickly. (Rings a bell.)

The jury was not "left to its own imagination", as my colleagues hold, on the "function, way, and result" determination of equivalency. Although the panel majority states that Malta presented only "offhand" and "conclusory" evidence, that statement does not accord with the record.

Malta's testimony on infringement took most of three days. Each claim clause was compared with its embodiment in the accused handbells, using real, demonstrative, and testimonial evidence, for literal infringement and for equivalency. There was substantial evidence of the function, way, and result of the striking surfaces of the accused handbells compared with the striking surfaces of the claimed invention. There was substantial evidence not only as to this specific claim element but also as to the invention as a whole, leaving no theory of equivalency uncovered. *Compare Pennwalt*

Corp. v. Durand-Wayland, Inc., 833 F. 2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987) *(en banc), cert. denied*, 485 U.S. 961 (1988) (requiring presence of every claim element, literally or by an equivalent) with *Graver Tank*, 339 U.S. at 607-08, 85 USPQ at 330 (equivalency is determined of the invention as a whole).

Looking first at the invention as a whole, there was substantial evidence that the accused bell *functioned* by instantaneous hand adjustment of the clapper, as does the claimed bell; changing the striking surfaces of varying hardness, thereby changing the tone of the bell. As to *way*, there was substantial evidence of how the tone is changed on rotation of the clapper, due to the change in hardness of the surface in the striking plane, for the claimed and the accused bells. As to *result*, there was substantial evidence of the rapidly adjustable changes in tone of the accused bell, as in the claimed bell, to obtain soft, medium, and hard tones.

The jury was instructed that in order to find infringement every element of the claim or the equivalent of every element must be present in the accused device.[4] Looking at the specific claim element for which equivalency was at issue, *i.e.*, the "plurality of striking buttons in opposed pairs having different degrees of hardness", again there was testimonial, documentary, and real evidence of the function, way, and result that characterize this element in the accused bells, and equivalency to

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4. This explains why the jury did not find infringement of claim 2, for that claim requires the presence of an additional element (the indexing means) that was not found present in the Schulmerich bells. That finding carries no inference as to equivalency of the claim element here at issue, for there was no prosecution history limiting this claim element. Estoppel applies to claim changes made to overcome prior art; not to the space between broader and narrower claim clauses. *See Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 871, 228 USPQ 90, 96 (Fed. Cir. 1985) (the reason for the difference in claim scope must be considered).

The verdict that claim 2 was not infringed was not appealed, and does not carry the "implication" with which the majority seeks to clothe it. There is no presumption or *per se* rule that a claimed element is not entitled to any equivalents whenever another claim describes that element in broader terms.

the function, way, and result that characterize the corresponding element of the claim. Malta presented substantial evidence that the *function* of the opposed pairs of felt/plastic striking surfaces in the Schulmerich bells, and of the opposed pairs of striking buttons of the claim, is to produce varying tones on striking the bell. Using physical and documentary evidence, Malta testified that the felt, solid plastic, and slotted plastic surfaces of the accused bells "function like buttons".

Malta also presented substantial evidence that the way the striking surfaces produce varying tones is by their varying degrees of hardness, in the accused bells and in the claimed invention. He pointed to the accused striking surfaces, using a color-highlighted drawing, and testified that "these are the three positions that I described earlier on the clapper that produce the hard, medium and soft", and that "each pair has a different degree of hardness." I quoted *ante* Malta's discussion of how slots in the plastic surface affect the tone:

> These slots will allow the plastic surface to give, to compress. And in so doing the tone that results will be brighter because we do not have felt covering the surface, felt being softer, but it will not be as bright as it will in the next position which we'll use opposed surfaces where there are no cored slots.

The Malta patent, in evidence and the subject of testimony before the jury, also describes the *way* both sets of striking surfaces function; see Figures 3 and 7 pictured *ante* and the description in the patent specification.

Although the panel majority now holds that Malta was required to explain how and why these known surfaces work in the way that they were known and shown to work, at least when trial is to a jury, Schulmerich did not raise this point; not on motion for directed verdict, not in its requested jury instructions, not on motion for judgment n.o.v., and not in its appellate brief. As a criterion of equivalency, it is unprecedented.

However, as I have stated, Mr. Malta did explain how and why. He explained that felt is "softer" than plastic, and he explained that the slots "allow the plastic to give, to compress", producing a less brilliant sound than the solid plastic surfaces. He was not required to explain "why". An inventor need not know the why of the scientific and technologic principles underlying an invention. *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U.S. 428, 435-36 (1911); *Fromson v. Advance Offset Plate, Inc.*, 720 F. 2d 1565, 1570, 219 USPQ 1137, 1140 (Fed. Cir. 1983). For example, in *Graver Tank* it was not required that the patentee explain why manganese and magnesium have similar properties in the claimed composition — an explanation requiring an understanding of atomic structure and chemical forces. Rather, it was the *observed fact* of the similar properties when used in the claimed composition that was legally significant.[5]

Malta also provided substantial evidence that the *result*ing change of tones is the same, for the striking surfaces of the accused bells and those of claim 3. He testified to the "different impact sounds" and "different tonal effect" that result. All of this evidence was specific to the issue of equivalency of the striking buttons and the felt/plastic/slotted plastic surfaces.

The evidence was thorough and, if anything, redundant. It is hard to imagine what more would have been appropriate. Malta surely met that threshold quantity

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5. I do not fault the inquiring mind that continually asks "why", for each deeper level of inquiry leads to enlarged scientific understanding. Each deeper level of inquiry invokes principles that are more abstract, more fundamental, less specific to the particular practical application, more attuned to pure science. The state of human knowledge is soon strained, as inquiry probes the depths of "why". (Why, for example, is some metal harder than other metal? why is felt softer than plastic? why does compression change the tone? why do slots change the compression?)

The patent system is directed to practical utility, not to basic research.

and quality of evidence required for consideration by the jury of the factual question of equivalency. A reasonable jury viewing this evidence could have found that these known alternative embodiments were equivalent.

The fundamental right of litigants to a jury trial is impugned by the creation of new evidentiary rules after the trial is over. "[T]he procedures by which the facts of the case are determined assume an importance fully as great as the validity of the substantive rule of law to be applied." *Speiser v. Randall, 357* U.S. 513, 520 (1958) (misplacement of burdens of proof and persuasion violated procedural safeguards). By holding that Malta was required to present evidence of "why" because the factfinder was a jury, the majority creates a new substantive and procedural rule of uncertain soundness, as well as treading upon due process.

C

The Jury Instructions

The parties agreed on the law to be applied. There was no objection to the jury instructions. Agreed instructions are subject to the general rule that failure to object will bar a later challenge to the law that was applied. Fed. R. Civ. P. 51:

> No party may assign as error the giving or the failure to give an instruction unless that party objects thereto before the jury retires to consider its verdict, stating distinctly the matter objected to and the grounds of the objection.

See also, e.g., United States v. 78.40 Acres of Land, 384 F.2d 746 (3d Cir. 1967) (counsel had no suggestions or objections to the jury charge, thus waiving assignment of error) ; *Allen Organ Co. v. Kimball Int'l, Inc.*, 839 F. 2d 1556, 1566, 5 USPQ2d 1769, 1777 (Fed. Cir.), *cert. denied*, 488 U.S. 850 (1988) (agreement without objection to the jury charge is agreement to the law the jury is to apply). This is not the rare case where appellate

intervention on the basis of plain error in an instruction is "necessary to prevent a miscarriage of justice". 9 C. Wright & A. Miller, *Federal Practice and Procedure*, § 2558 at 672 (2d ed. 1971).

Schulmerich did not request jury instructions on any of the points on which the panel's majority opinions now rely. In instructing the jury on infringement in terms of the doctrine of equivalents, the trial court used the classical words of *Graver Tank,* 339 U.S. at 609, 85 USPQ at 331; and also explained the law of equivalency in light of other factual aspects of equivalency that had been raised at the trial:

> Infringement under the Doctrine of Equivalents may exist if the accused handbells perform substantially the same function in substantially the same way so as to obtain substantially the same results as the claimed invention. I'll repeat that.
>
> Infringement under the Doctrine of Equivalents may exist if the accused handbells perform substantially the same function in substantially the same way so as to obtain substantially the same results as the claimed invention.
>
> What constitutes equivalency must be determined considering the context of the patent, what we're talking about, the prior art and the particular circumstances of the case. The smaller the advance over the prior art, that is, what's in the prior field, the narrower the range of available equivalents.
>
> Also, it must be kept in mind that the Doctrine of Equivalents has certain limits. For example, the doctrine may not be used to support an interpretation that would resurrect or reopen subject matter surrendered or dropped during prosecution of the patent application or subject matter that is in the realm of public information.

> Additionally, the scope of the patent may not be expanded or extended so far that they've become invalid or meaningless in light of the scope of the prior art.
>
> Also, equivalents must be established with respect to the claims of the patent, not for commercial purposes for which the products are used.
>
> In applying the Doctrine of Equivalents, remember that infringement requires that each and every element of an asserted claim or the equivalent of the element must be present in the accused device.

Schulmerich's counsel said: "I think it was a nice charge."

Neither member of the panel majority directs criticism to the jury instructions.

It. must be assumed that the jury followed the court's instructions. *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 604 (1985). A reasonable jury, applying these instructions in light of the evidence, could have found infringement of claim 3 under the doctrine of equivalents. The record shows that there was substantial evidence on which the jury could rely to find equivalency. *See Kinnel,* 850 F.2d at 961-62 (verdict must be affirmed if there is the minimum amount of evidence on which the jury could rely, giving the nonmovant the benefit of all reasonable inferences).

I can not discern, and the panel majority does not explain, how the jury was "put to sea without guiding charts". In addition to the well-organized testimony, there were the actual bells, the photographs, the charts, the videotape, the description and drawings in the patent, and the prior art. There were examination and cross-examination, opposing witnesses, and experts. All of the exhibits were taken to the jury room. These bells are simple devices. The majority's criticism that this jury was "left to its own imagination" on the technical and

legal issue of equivalency is belied by the record. Any legal gap was waived by failure to object to the jury instructions, *McAdam v. Dean Witter Reynolds, Inc.*, 896 F.2d 750, 768-69 (3d Cir. 1990); and any technical gap must be measured by the established standard for review of jury verdicts. *Denneny*, 407 F.2d at 439 (the jury verdict must be sustained unless the record "is critically deficient of that minimum quantum of evidence from which a jury might reasonably afford relief"). On the correct standard, the jury verdict must be upheld.

D

The New Rules for Jury Trials

Eight months after this jury verdict was rendered this court held, in *Lear-Siegler, Inc. v. Sealy Mattress Co.*, 873 F.2d 1422, 10 USPQ2d 1767 (Fed. Cir. 1989), that proof of equivalency requires a different evidentiary standard and enlarged attorney explanation when a jury is the trier of fact, as compared with trial to the court. Both members of the panel majority rely on this holding, or at least on the *dictum* to similar effect in *Nestier, see* n.2, *supra*.

As I have discussed, the *Lear-Siegler* requirements of "particularized testimony and linking argument" in jury trials are in conflict with *Graver Tank*, 339 U.S. at 609, 85 USPQ at 331, wherein the Court made clear that proof of equivalence "can be made in any form". If, as both members of the panel majority insist, the *Lear-Siegler* requirements, are not new, their unprotested absence from the jury instructions, and from every other aspect of the trial, means that they were waived. And this panel's new requirement that there be evidence of "why" as well as "function, way, and result" contravenes the holding *Graver Tank* that "equivalence, in the

patent law, is not the prisoner of a formula", 339 U.S. at 609, 85 USPQ at 330.[6]

The new requirements also conflict with the truism that attorney argument is not evidence, 1 *Wigmore On Evidence,* § 1 (b) , at p.7 (Tillers rev. 1983), and with the further truism that "the required findings are controlled by the court's instructions to the jury", *DMI,* 802 F.2d at 425, 231 USPQ at 279. There is also conflict with the rule that the appellate court must view the evidence and draw reasonable inferences in the light most favorable to the party with the verdict, *Link v. Mercedes-Benz of North America, Inc.*, 788 F.2d 918, 921 (3d Cir. 1986); and conflict with the proscription against appellate fact-finding:

> [C]onflicting evidence which could reasonably lead to inconsistent conclusions will not justify at judgment notwithstanding the verdict or a directed verdict. It is the function of the trier of fact alone, the jury in this instance, to evaluate contradictory evidence and to draw inferences therefrom.

Fireman's Fund Ins. Co. v. Videfreeze Corp., 540 F.2d 1171, 1178 (3d Cir. 1976), *cert. denied*, 429 U.S. 1053 (1977) (citations omitted).

An additional conflict with precedent arises in the panel majority's treatment of expert testimony. Although Malta testified as an expert, the majority rejects that testimony as insufficient under its new approach to jury trials. Compare, *e.g., Symbol Technologies, Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1574-76, 19 USPQ2d 1241, 1245-46 (Fed. Cir. 1991), wherein this court held that under the Federal Rules of Evidence an expert's

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6. The jury instructions that were given used the words of *Graver Tank* (the three "prongs" of function, way, and result), plus the "all-elements rule" of *Pennwalt.* The panel majority's statement that "this court has never adopted the three prong approach to determining equivalency of a limitation" will surprise readers of some of our opinions.

testimony on infringement, including claim charts, was sufficient to establish a prima facie case of infringement. *See Sartor v. Arkansas Natural Gas Corp.*, 321 U.S. 620, 627-28 (1944) (where trial court admits opinion testimony, it is for jury to decide what, if any, weight to assign it). Here, Malta's testimony is being held insufficient as a matter of law, for failure to meet the majority's retrospectively imposed requirements for jury trials.

Today's paternalistic ruling that more and different evidence and argument are required when infringement is tried to a jury diverts patent jury trials from the mainstream of the law, a place assured by history and once accepted by the Federal Circuit:

> So long as the Seventh Amendment stands, the right to a jury trial should not be rationed, nor should particular issues in particular types of cases be treated differently from similar issues in other types of cases.

Connell v. Sears, Roebuck, 722 F.2d at 1547, 220 USPQ at 197.

> [I]t is appropriate to affirm unequivocally that patent litigants are entitled to neither a greater nor a lesser but to the same right to a jury trial, under the same governing considerations, as are all other litigants.

SRI International v. Matsushita Electric Corp. of America, 775 F.2d 1107, 1127, 227 USPQ 577, 590 (Fed. Cir. 1985) (Markey, C.J., additional views). In *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1515, 220 USPQ 929, 937 (Fed. Cir.), *cert. denied*, 469 U.S. 871 (1984), this court stated:

> There is, of course, no reason for considering patent cases as somehow out of the mainstream of the law and rules of procedure applicable to jury trials for centuries under our jurisprudence.

The retroactive imposition of these new rules and resultant reversal of the jury verdict also contravenes the guidance of *Chevron Oil Co. v. Huson*, 404 U.S. 97 (1971) (discussing retroactive imposition of law).

This court is changing not only the rules governing jury trials, but the rules of appellate review. The mischief is well illustrated in today's *post hoc*, retrospectively imposed, micro-management of the jury trial process. It is inimical to due process, for litigants and trial judges will not know when the Federal Circuit will decide, on appeal, that a particular issue required more explanatory testimony and attorney argument at a jury trial than either the parties or the trial judge deemed necessary, or the law required.

The role of the jury in civil litigation is not ours to change. See H.T. Markey, *On Simplifying Patent Trials*, 116 F.R.D. 369, 370 (1987):

> There is neither reason nor authority for employing in a patent trial procedures and practices different from those employed in any other civil trial. Indeed, reason and authority mandate the contrary.

On appellate review, after the motion for judgment n.o.v. has been made and decided, the appellate court shall "apply the same standard as the trial court." *Simone v. Golden Nugget Hotel and Casino*, 844 F.2d 1031, 1034 (3d Cir. 1988).

> The standards for granting a motion for judgment n.o.v., on which the constitutionality of such action depends, are the same as those governing the direction of a verdict. Thus, the motion for judgment n.o.v. may be granted only when, without weighing the credibility of the evidence, there can be but one reasonable conclusion as to the proper judgment. Where there is sufficient conflicting evidence, or insufficient evidence to conclusively establish the movant's case, judgment n.o.v. should not be awarded. In considering the motion, the court must

> view the evidence in the light and with all reasonable inferences most favorable to the party who secured the jury's verdict. This approach governs the appellate courts as well as the trial courts.

5A *Moore's Federal Practice* ¶ 50.07[2] (2d ed. 1985) (footnotes omitted).

It is incorrect to hold that the motion for judgment n.o.v. converts appellate review of a jury verdict to simple review of the trial judge's decision, as if there were no jury and no verdict.[7] *See Boyle v. United Technologies Corp.*, 487 U.S. 500, 513-14 (1988) (it was error for the appellate court to decide on its own whether the evidence was sufficient; the necessary inquiry was whether a reasonable jury could, on the proper formulation of the defense, have found for the plaintiff on the facts presented); *Continental Ore Co. v. Union Carbide & Carbon Corp.*, 370 U.S. 690, 695-96 (1962) (criticizing appellate court for reviewing "the correctness of the judgment" entered on the jury verdict, instead of following the rules for review of jury verdicts). "[J]udges . . . are precluded from reexamining facts tried by a jury". *Davis v. Omitowoju*, 883 F.2d 1155, 1165 (3d Cir. 1989).

Similarly on motion for directed verdict, a motion whereby the trial judge must decide whether to withhold the case from the jury:

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7. The majority errs in interpreting the *Graver Tank* words that equivalency "is to be decided by the trial court", see majority slip op. at 18, as meaning that this question is not for the jury. The sentences preceding that quoted by the majority are:

> A finding of equivalence is a determination of fact. Proof can be made in any form: through testimony of experts or others versed in the technology; by documents, including texts and treatises; and, of course, by the disclosures of the prior art. Like any other issue of fact, final determination requires a balancing of credibility, persuasiveness and weight of evidence. It is to be decided by the trial court . . . .

339 U.S. at 609-10, 85 USPQ at 331. *Graver Tank* was not tried to a jury.

> The Court of Appeals was, of course, bound to view the evidence in the light most favorable to (the non-movant) and to give it the benefit of all inferences which the evidence fairly supports, even though contrary inferences might reasonably be drawn.

Continental Ore Co., 370 U.S. at 696 (1962). The Court quoted Professor Moore's statement that

> "the appellate court must consider the evidence in its strongest light in favor of the party against whom the motion for directed verdict was made, and must give him the advantage of every fair and reasonable intendment that the evidence can justify."

Id. at 696 n.6, quoting 5 *Moore's Federal Practice* §2316 (2d ed., 1951).

Nor can the right to jury trial of this factual issue be extinguished because the doctrine of equivalents was "judicially devised to do equity". The jury has historically been charged with the factual inquiry of equivalency:

> The question whether one thing is a mechanical equivalent for another is a question of fact for the jury, on the testimony of experts, or an inspection of the machines; and it is an inference to be drawn from all the circumstances of the case, by attending to the consideration, whether the contrivance used by the defendant is used for the same purpose, performs the same duties, or is applicable to the same object, as the contrivance used by the patentee.

G. Curtis, *A Treatise on the Law of Patents*, ch. VIII, § 310 at p. 405 (4th ed. 1873). This court, by retroactively imposing new requirements for proving infringement, then re-finding the facts under the guise of determining whether these new requirements were

complied with, has denied this litigant's historic right.[8] I do not lightly charge my colleagues with so serious a breach; yet the Supreme Court has admonished:

> Maintenance of the jury as a fact-finding body is of such importance and occupies so firm a place in our history and jurisprudence that any seeming curtailment of the right to a jury trial should be scrutinized with the utmost care.

Dimick v. Schiedt, 293 U.S. 474, 486 (1935).

Applying the correct standard of appellate review, the jury's verdict must be affirmed. The panel majority has adopted an improper view of the jury process, in contravention of fundamental law and the precedent of the Supreme Court, the Third Circuit, and the Federal Circuit. Thus, respectfully, I dissent.

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8. U.S. Const. amend. VII:
. . . no fact tried by a jury shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

No. 90-1250,-1269

JACOB H. MALTA and MALMARK, INC.,
Plaintiffs-Appellants,

v.

SCHULMERICH CARILLONS, INC., and
RONALD O. BEACH,
Defendants/Cross-Appellants,

and

KELLY-MICHENER, INC., and
THE HANDCHIME COMPANY, LTD.,
Defendants.

ORDER

Before RICH, *Circuit Judge*, NEWMAN, *Circuit Judge*, MICHEL, *Circuit Judge*.

A petition for rehearing having been filed in this case, UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, denied.

The suggestion for rehearing in banc is under consideration.

The mandate will issue on February 3, 1992.

FOR THE COURT,

Dated: January 27, 1992

/s/
Francis X. Gindhart
Clerk

cc: CHARLES N. QUINN
ALBERT W. PRESTON, JR.

MALTA V. SCHULMERICH CARILLONS INC, 90-1250
(DCT – 85-5330)

Note: Pursuant to Fed. Cir. R. 47.8, this order is not citable as precedent. It is a public record.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

No. 90-1250,-1269

JACOB H. MALTA and MALMARK, INC.,
Plaintiffs-Appellants,

v.

SCHULMERICH CARILLONS, INC., and
RONALD O. BEACH,
Defendants/Cross-Appellants,

and

KELLY-MICHENER, INC., and
THE HANDCHIME COMPANY, LTD.,
Defendants.

ORDER

A suggestion for rehearing in banc having been filed in this case, and a response thereto having been invited by the court and filed,

UPON CONSIDERATION THEREOF, it is

ORDERED that the suggestion for rehearing in banc be, and the same hereby is, declined.

FOR THE COURT,

/s/
Francis X. Gindhart
Clerk

cc: CHARLES N. QUINN
ALBERT W. PRESTON, JR.

MALTA v. SCHULMERICH, 90-1250
(DCT–85-5330)

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

No. 90-1250,-1269

JACOB H. MALTA and MALMARK, INC.,
Plaintiffs-Appellants,

v.

SCHULMERICH CARILLONS, INC., and
RONALD O. BEACH,
Defendants/Cross-Appellants,

and

KELLY-MICHENER, INC., and
THE HANDCHIME COMPANY, LTD.,
Defendants.

NEWMAN, *Circuit judge*, dissenting from denial of rehearing *en banc*.

With denial of Malta's request for *en banc* review, this court has perpetuated the conflicts that flow from the panel's treatment of this jury verdict. The jury verdict was reversed by the panel majority on the basis of evidentiary and substantive rules that were not before the trial judge or the jury, and indeed not embodied in precedent until eight months after the verdict was

rendered. The panel majority simply decided the controlling factual issues of this case *de novo*. Not only law, but justice, have been slighted.

We have stated that the rulings of a panel of this court, when inconsistent with earlier rulings, do not bind the court unless adopted *en banc*. Thus the standard of review of jury verdicts in this court, as well as the interpretation of the doctrine of equivalents, will continue to depend on the selection of the panel. I am told that over one third of the patent cases that come to trial in the district courts are now tried to a jury. In view of the panel majority's disregard of established procedures for appellate review of jury verdicts, the court falters in its obligation to adopt a consistent position on which the public can rely.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

JACOB H. MALTA and MALMARK, INC.	:	CIVIL ACTION
v.	:	
SCHULMERICH CARILLONS, INC. KELLY-MICHENER, INC. RONALD O. BEACH and THE HANDCHIME COMPANY	:	No. 85-5330

Ludwig, *J.* November 20, 1989

MEMORANDUM

Plaintiffs Jacob H. Malta and Malmark, Inc. move for a permanent injunction under 35 U.S.C. §283 and for attorney's fees under Fed.R.Civ.P. 11, 28 U.S.C. §1927 and 35 U.S.C. §285. Defendants Schulmerich Carillons, Inc. and Ronald 0. Beach move for judgment notwithstanding the jury verdict for plaintiffs and for judgment vacating the jury's damage award of $950,000 or for reduced damages. Fed.R.Civ.P 50(b). Because the evidence does not prove the essential elements of plaintiffs' case, the motion for judgment n.o.v. must be granted.[1] Plaintiffs' motions are denied.

Plaintiffs brought this patent infringement and unfair business practice action[2] against defendants Schulmerich Carillons, Inc, Kelly-Michener, Inc., Ronald O. Beach and The Handchime Company.[3] By order of March 7, 1988 the action was bifurcated into patent and

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1. Defendants' damages arguments are not considered.
2. Jurisdiction: 28 U.S.C. §§ 1331, 1338(a).
3. Defendant Kelly-Michener, Inc. was dismissed by stipulation. Defendant the Handchime Company of Great Britain was served but did not actively participate in this proceeding. Defendant Ronald 0. Beach is the president of Schulmerich.

non-patent issues, and from August 30 to September 7, 1988 the patent issues were tried before a jury.[4]

I.

From 1956 to 1973, defendant Schulmerich, then the predominant manufacturer of handbells in this country, employed Mr. Malta as its chief engineer. In 1973, Malta resigned and, in 1975, formed Malmark, Inc., which grew rapidly and became the rival of Schulmerich. These two companies, both located in Bucks County, Pennsylvania, now supply almost all of the thousands of handbells that are sold each year to churches, schools, and musical groups.

In 1976, Malta obtained U.S. patent 3,941,082 on a handbell that can be manually adjusted almost instantaneously so as to produce different notes or chimes while being played. The Schulmerich handbell had a fixed setting for one note or chime, but could be re-set mechanically. In 1979, in competition with the Malmark handbell, Schulmerich began marketing its "Quick Adjust" handbell.

In the present action, plaintiffs' patent case proceeded on the theory that Schulmerich's "Quick Adjust" handbell infringed Claims Two and Three[5] of '082 either

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4. The non-patent issues have not been tried.

5. Claim Three:

A handbell comprising in combination: a bell having a generally closed end; a clapper assembly adapted to be removably carried within said bell and centrally of the closed end thereof, said assembly comprising a clapper shaft having one end pivotally associated centrally of the closed end of said bell and carrying a clapper member at its free extremity, said clapper member comprising a generally circular striker assembly rotatably positioned substantially normal to said clapper shaft and including a plurality of striking buttons positioned in opposed pairs around the outer periphery thereof and wherein each pair of buttons has a different degree of hardness; means on said clapper assembly coacting with said rotatable striker assembly for permitting rotation of said striker assembly relative to said clapper shaft for selectively positioning desired pairs of buttons in striking relation to said bell; and detent

literally or under the patent law doctrine of equivalents. Schulmerich asserted the defenses of shop right and laches. In returning a verdict for plaintiffs, the jury made special findings that: (1) Claim Three of the '082 patent was infringed under the doctrine of equivalents; (2) defendants did not have a shop right in the '082 patent; and (3) plaintiffs were barred by laches from recovery of damages prior to 1985. Its verdict of $950,000 represents plaintiffs' lost profits from 1985 to the time of trial.[6]

II.

Post-trial, defendants' liability contentions are two-fold. The first is that Schulmerich co-owned patent '082 inasmuch as Malta originally developed the "buttons feature" while in its employ and was bound by his employment agreement to make an assignment of all such inventions. Or: On the same basis, Schulmerich had a shop right in the patent. Second, there is a lack of substantial evidence to support the finding of Claim Three infringement by way of the doctrine of equivalents.

Defendants' buttons feature argument is not well founded. The expression "buttons feature" was used in this case to refer to two different features. Malta conceded that he devised one of them while employed by Schulmerich – but it is not part of the '082 patent. The other was developed according to Malta after he left Schulmerich. Malta's testimony in explanation of these two separate inventions was sufficient for the jury to

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NOTES *(Continued)*

means cooperating with said rotatable striker for releasably holding said striker assembly in any preselected position.

6. On this post-verdict motion, the evidence must be viewed most favorably to plaintiffs, including all reasonable inferences, and the jury's credibility findings may not be disturbed. *Mainland Industries v. Standal's Patents. Ltd.*, 799 F.2d 746, 747-48 (Fed. Cir. 1986). *See Fireman's Fund, Inc. v. Videfreeze Corp.*, 540 F.2d 1171 (3d Cir. 1976), *cert. denied.*, 429 U.S. 1053 (1977).

have concluded that Schulmerich was not a co-owner of '082 and was not entitled to a shop right. *See* T. 3.10-13.

The doctrine of equivalents issue is not so easily resolved. To begin with, the purpose of this decisional doctrine is to protect a patented invention from circumvention by minor changes or deviations. *Graver Tank & Mfg. Co., Inc. v. Linde Air Products Co.*, 339 U.S. 605, 607 (1950); *Nestier Corporation v. Menasha Corporation-Lewisystems Division*, 739 F.2d 1576, 1579 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1053 (1985). To restrict protection to devices that literally duplicate would render the patent law a "hollow and useless thing." *Graver Tank*, 339 U.S. at 607. Its essence being to prevent a fraud on the patent, the scope of the doctrine should be viewed in that spirit. As a wide-angle abstraction, the idea of equivalency could be subject to abuse by either a litigious patentee or a duplicitous infringer. What constitutes equivalence must therefore depend on the contextual setting involved and should not be a prisoner to formula. *Graver Tank*, 339 U.S. at 608-09. As enshrined in the classic statement, there is equivalence if the accused device "performs substantially the same function in substantially the same way to obtain the same result." *Graver Tank*, 339 U.S. at 608, quoting *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 42 (1929), quoting *Machine Co. v. Murphy*, 97 U.S. 120, 125 (1877).

This is known as the function, means and result test. A fact-finder cannot properly make a determination of equivalence "absent evidence and argument concerning the doctrine and each of its elements." *Nestier*, 739 F.2d at 1579. The patentee has the burden to prove infringement. "[T]o do so under the doctrine of equivalents requires a showing that all three components of the equivalency test are met." *Universal Gym Equipment, Inc. v. Erwa Exercise Equipment Limited*, 827 F.2d 1542, 1548 (Fed. Cir. 1987). As the Federal Circuit emphasized this year, noting the same had been "said in

Nestier,"[7] "a jury must be separately directed to the proof of each *Graver Tank* element." *Lear Siegler, Inc. v. Sealy Mattress Company of Michigan*, 873 F.2d 1422, 1425 (Fed. Cir. 1989).

This discrete and specific focus on function, means and result is explicitly required by *Graver Tank*. Without such direction and guidance, a jury is "more or less put to sea." *Lear Siegler*, 873 F.2d at 1425-26. A jury cannot make a factual finding of equivalence without "particularized testimony and linking argument." *Id.* This is the deficiency that necessitates setting aside plaintiffs' award.

A patent claim contains claim limitations or elements.[8] *Perkin-Elmer Corporation v. Westinghouse Electric Corporation*, 822 F.2d 1528, 1533 n. 9 (Fed. Cir. 1987). "It is . . . well settled that each element of a claim is material and essential, and that in order for a court to find infringement, the plaintiff must show the presence of every element or its substantial equivalent in the accused device." *Lemelson v. United States*, 752 F.2d 1538, 1551 (Fed. Cir. 1985). Claim limitations cannot be ignored, the public being entitled to rely on them to avoid infringement and enforcement litigation. *Pennwalt Corporation v. Durand-Wayland, Inc.*, 833 F.2d 931, 935 (Fed. Cir. 1987), *cert. denied*, 108 S.Ct. 1474 (1988), quoting *Perkin-Elmer*, 822 F.2d at 1532. *See* R. Harmon, *Patents and the Federal Circuit (First Supplement 1987-88)* (1989) §6.3.

A patentee, therefore, must substantiate all three aspects of equivalency, per *Graver Tank*, as to each limitation of a claim in order to establish equivalence

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7. Plaintiffs' view is that *Lear Siegler* makes new law and should be applied prospectively. However, as both *Lear Siegler* and *Nestier* state, these rules are not new. Moreover, *Lear Siegler* merely repeats in so many words the explication of *Nestier*.

8. "Elements" has been used to refer to each part of the function-means-result test and also to a claim limitation or subdivision of a claim. *Compare Lear Siegler*, 873 F.2d at 1425, with *Perkin-Elmer Corporation*, 822 F.2d at 1533 n.9.

between claim and accused device. This is not to say the accused device must contain a structure satisfying every claim limitation. "One-to-one correspondence of components is not required, and elements or steps may be combined without *ipso facto* loss of equivalency." *Sun-Studs Inc. v. ATA Equipment Leasing, Inc.*, 10 USPQ2d 1338, 1347 (Fed. Cir. 1989). But given that flexibility, *Graver Tank's* tripartite requirements extend to each and every element of the claim. *Lear Siegler*, 873 F.2d at 1427.

The equivalency infringement of Claim Three of the '082 patent fails as to the striker assembly – "including a plurality of striking buttons positioned in opposed pairs around the outer periphery thereof and wherein each pair of buttons has a different degree of hardness; . . ." Claim Three. According to defendants, the only evidence adduced was unrebutted testimony of their witness Vacarro (T. 3.168-69) that the same function and the same result are not present in their accused handbell. Plaintiffs counter with the proffer of the bell itself, the poster-type exhibits and, in particular, Malta's testimony (T. 2.60-99).

There is substantial evidence that both handbells have three separate striking surfaces of different degrees of hardness that can produce three different sounds. However, the language of Claim Three, unlike Claim Two, speaks explicitly of "buttons" - not just a striking surface. Defendants contend that the critical issue is the equivalence of buttons positioned around the outer periphery of the clapper. This position has dispositive merit.

Plaintiffs offered no more than brief, conclusory evidence that the Schulmerich bell contains the equivalent of the disputed buttons. (T. 2.61 lines 1-2; 2.99 lines 2-4.) This is evident in the following direct-examination of Mr. Malta:

Q. Would you make that clear as to what the structure is in the Schulmerich bell that corresponds to the buttons that are recited in the claim?

A. All right. The structure is these portions of the clapper, in this case the opposed felt pieces, and adjacent thereto on each side these elliptical spots of green, indicating that there are additional pairs of opposed striking surfaces.

Q. Striking surfaces. Would you go on with your explanation of how the portion illustrated in color in the exhibit corresponds to the claim language?

A. Right. The – as I described, we have a plurality of buttons, there's three sets, *buttons or the equivalent thereof*, and they are in opposed pairs around the periphery. We've described how they are related to these indexing slots in the underside of the brass clapper insert, and each pair has a different degree of hardness, we've described that. Here again we have felt which produces a soft impact sound. Here, this would be in relation to this slotted portion here where we have a slot in the core and at 180 degrees another slot, that would be the medium impact position. And then the lowermost one would be the – this one opposed to this where we have a solid plastic material in the impact plane producing a brilliant sound.

(T. 2.60-61) (Emphasis added.)

The expression in Malta's testimony, "buttons or the equivalent thereof," lays out the controverted issue. Only a fact-finder, aided by particularized evidence as to function, means and result of this claim element – specifically "buttons" – can properly decide whether the "Quick Adjust" handbell has "the equivalent thereof." Although there was some evidence in Malta's cross-examination as to the nature of the buttons and their development (T. 2.154-56), nothing approaches the detailed comparison of function, means and result

called for by the cases. For a jury to relate "the opposed felt pieces [and] elliptical spots of green" in the Schulmerich bell to the '082 buttons is, on this record, guesswork. The evidentiary explanation is lacking as to how and why, as contended by plaintiffs, these features are "buttons or the equivalent thereof." Otherwise, a finding of equivalence, as occurred in this case, rests largely on the equivalence of the ultimate result – the adjustable capability of both bells to produce three different sounds while being played. To uphold this jury's finding would violate *Graver Tank-Nestier-Lear Siegler* and would reduce the doctrine of equivalents to a result oriented catch-all

Since this decision is made on the entire record, judgment for defendants, notwithstanding the verdict, will be entered.[9] Fed.R.Civ.P. 50(b); Wright and Miller, 9 *Federal Practice and Procedure* §2538.

/s/
Edmund V. Ludwig, J.

9. At the close of the evidence, defendants moved for a directed verdict, which is prerequisite to judgment n.o.v. In hindsight, a directed verdict appears to have been appropriate. *Lear Siegler*, 873 F.2d at 1426.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

JACOB H. MALTA and	:	CIVIL ACTION
MALMARK, INC.	:	
	:	
v.	:	
	:	
SCHULMERICH CARILLONS, INC.	:	
KELLY-MICHENER, INC.	:	
RONALD O. BEACH and	:	
THE HANDCHIME COMPANY	:	No. 85-5330

ORDER

AND NOW, this 20th day of November, 1989, the motion of defendant Schulmerich Carillons, Inc. for judgment notwithstanding the verdict entered September 7, 1988 in favor of plaintiffs Jacob H. Malta and Malmark, Inc. in the amount of $950,000 is granted. Plaintiffs' motions for permanent injunction and for attorneys' fees and costs under Fed.R.Civ.P. 11, 28 U.S.C. §1927 and 35 U.S.C. §285 and for Supplemental Judgment are denied.

/s/
Edmund V. Ludwig, *J.*

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

JACOB H. MALTA and	:	CIVIL ACTION
MALMARK, INC.	:	
	:	
v.	:	
	:	
SCHULMERICH CARILLONS, INC.	:	
KELLY-MICHENER, INC.	:	
RONALD O. BEACH and	:	
THE HANDCHIME COMPANY	:	No. 85-5330

ORDER

AND NOW, this 22nd day of November, 1989 the order entered November 21, 1989 granting the motion of defendant Schulmerich Carillons, Inc. for judgment notwithstanding the verdict is supplemented as follows: The judgment entered on the verdict on September 8, 1988 is reopened and judgment is hereby entered for defendant as if the verdict requested at the close of the evidence had been directed. Fed.R.Civ.P. 50(b)

/s/
Edmund V. Ludwig, *J.*

(2)

No. 91-1705

Supreme Court, U.S.
FILED
MAY 20 1992
OFFICE OF THE CLERK

IN THE

SUPREME COURT OF THE UNITED STATES

October Term, 1991

JACOB H. MALTA, et al.
Petitioners

v.

SCHULMERICH CARILLONS, INC., et al.
Respondents

BRIEF IN OPPOSITION TO A PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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QUESTIONS PRESENTED FOR REVIEW

1. Whether the Federal Circuit decision is consistent with applicable precedent or whether there was application of new procedural case law?

2. Whether the award of JNOV was properly affirmed for failure to present substantial evidence under the principles of *Graver Tank*?

3. Whether the District Court and the Federal Circuit properly followed Federal Rule of Civil Procedure 50?

TABLE OF CONTENTS

	Page
QUESTIONS PRESENTED	i
TABLE OF CASES, STATUTES, AND OTHER AUTHORITIES	iii
STATEMENT OF THE CASE	1
SUMMARY OF THE ARGUMENT	4
ARGUMENT	5
1. The Affirmance of JNOV Was Consistent With Applicable Precedent and Was Not Based on Retroactively Applied New Procedural Case Law	5
2. The Grant of JNOV Was Properly Affirmed Based On the Petitioner's Failure To Present Substantial Evidence Under the Principles of *Graver Tank*	8
3. The District Court and the Federal Circuit Properly Followed Federal Rule of Civil Procedure 50	10
CONCLUSION	11

TABLE OF CASES, STATUTES, AND OTHER AUTHORITIES

Cases:

Page

Abraham v. Pekarski, 728 F.2d 167, 171 (3rd Cir. 1984), *cert. denied* 10

Graver Tank Mfg. Co. v. Linde Air Products Co., 339 U.S. 605, 85 USPQ 328 (1950)..... passim

Lear Siegler, Inc. v. Sealy Mattress Co., 873 F.2d 1422, 10 USPQ2d 1767 (1989)..... passim

Nestier Corp. v. Menasha Corp.-Lewisystems Div., 739 F.2d 1576, 1579, 222 USPQ 747 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1053 (1985) 4, 6, 7, 8

Pennwalt v. Durand-Wayland, 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 961 (1988)..... 6

Statutes:

Federal Rule of Civil Procedure 50..... 5, 10, 11

No. 91-1705

IN THE

SUPREME COURT OF THE UNITED STATES

October Term, 1991

JACOB H. MALTA, et al.

Petitioners

v.

SCHULMERICH CARILLONS, INC., et al.

Respondents

BRIEF IN OPPOSITION TO A PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

STATEMENT OF THE CASE

This is a patent infringement case. Plaintiff Malta, the patentee, had the burden of proving that the accused product infringed one or more claims of his patent. In asserting a patent claim, the claim language must be construed and the accused device compared to the claim language.

The patent in suit, U.S. Patent No. 3,941,082 ('082 patent) discloses two different embodiments for the "clapper" portion of the handbell which is the inner swinging portion which strikes the main outside portion

to produce a tone. These two clapper embodiments were described in different figures of the '082 patent, as set forth in the majority opinion A-3. Malta asserted two separate claims at trial, each calling for a respective one of the clapper arrangements. The first asserted claim, claim 2, called for clapper surface portions simply having different degrees of hardness. This claim was found not infringed, and was not an issue on appeal.

Claim 3 in issue, set forth in full at A-3,4, required two salient features, namely a detent mechanism for permitting the clapper to be manually rotated, and a "buttons" feature which provided a specific form of clapper surface for providing different degrees of hardness. The "buttons" limitation in issue reads as follows:

> . . . a plurality of striking buttons positioned in opposed pairs around the outer periphery thereof [of the clapper] and wherein each pair of buttons has a different degree of hardness.

Thus, the claim in issue requires not just clapper surface portions having different degrees of hardness, but a specific buttons way of providing the different hardness surfaces. It was Petitioner's burden at trial to prove that the accused handbells provided different degrees of hardness in the specific buttons way.

Only the presence in the accused handbells of the equivalent of the buttons limitation as set forth above was in issue at trial. Due to the precise language of this limitation, there was no validity issue; and there was no issue concerning the presence of other claim limitations in the accused handbell devices. The majority of the accused handbells had a prior art form of clapper which was entirely round and smooth on its periphery,[1] and admittedly presented striking surfaces with different

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1. The accused handbells actually came in different sizes. The majority of them had a clapper which had an entirely smooth strike surface. Less than half of the bells had a single pair of felt pieces on their clapper.

degrees of hardness. Indeed, the clapper of the accused Schulmerich device was disclosed in a Schulmerich patent which was prior art to the '082 patent, and was the basis for the broader, more generic form of clapper claimed in claim 2 and illustrated in Figure 3 as the first embodiment of the '082 patent in suit.

At trial, Mr. Malta, who testified only as a lay witness,[2] presented many kinds of evidence which purported to support his claim of infringement of both claims 2 and 3. However, there was no comparison evidence submitted by Mr. Malta, testimonial or otherwise, to suggest that the accused clapper provided different degrees of hardness in the same way as did the buttons device of claim 3. There was no handbell introduced into evidence at trial which was purported to contain buttons, so as to provide a device comparison. Neither Petitioner's company nor Schulmerich ever made a commercial bell having buttons. There was no evidence or even argument to the jury that any Malmark handbell was covered by claim 3.[3]

In brief summary, Petitioner's evidence at trial demonstrated only that the clapper of the accused Schulmerich handbell provided different degrees of surface hardness (which, indeed, was admitted to have been the case since before Mr. Malta's patent application was even filed) and that the buttons-type clapper as described and claimed in the patent also provided different degrees of hardness. However, Malta provided no proof or evidence of any sort as to the way that buttons worked. Thus, there was no reference for making a comparison to

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2. It is Respondents' perception that Petitioner's references to Mr. Malta's expert testimony (at pages 5 and 16 of his Petition) constitute misstatements. Mr. Malta was never qualified as an expert.

3. It is Respondents' perception that the Petition is incorrect in stating that there was a demonstration of a handbell product at trial embodying Malta's invention. (Petition, p. 18). Plaintiff made no attempt to prove that its commercial handbells had buttons, and did not even assert such at trial.

buttons. Likewise, there was no comparison evidence that the accused clapper surface had the equivalent of striking buttons on the outer periphery of the clapper as a way of providing surfaces of different degrees of hardness.

Petitioner presented no expert testimony at trial, concerning the equivalence issue or otherwise.

SUMMARY OF THE ARGUMENT

Petitioner's primary position is that of seeking another review of the District Court's JNOV. Although several legal errors are urged, Petitioner in fact seeks to re-argue the evidence. Moreover, Petitioner's argument ignores the patent claim language which is the required reference point of the equivalence issue.

The Federal Circuit affirmance of JNOV was not based on retroactively applied new procedural case law. On the contrary, the majority opinion of affirmance was based clearly on failure of substantial evidence to prove that each prong of the *Graver Tank*[4] equivalency test was met. While the affirmance cited *Lear Siegler*,[5] it was based on failure of sufficient evidence concerning the "way" prong of the *Graver Tank* test, as explained by the Federal Circuit in 1984 in *Nestier*.[6]

Petitioner's Fifth Amendment argument was not raised below prior to the Petition for Rehearing and Suggestion for Rehearing In Banc, and in any event is based on an erroneous reading of the appellate decision.

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4. *Graver Tank Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 85 USPQ 328 (1950).

5. *Lear Siegler, Inc. v. Sealy Mattress Co.*, 873 F.2d 1422, 10 USPQ2d 1767 (1989).

6. *Nestier Corp. v. Menasha Corp.-Lewisystems Div.*, 739 F.2d 1576, 1579, 222 USPQ 747 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1053 (1985).

The Seventh Amendment argument is simply a reflection of Petitioner's dissatisfaction with the JNOV decision, and reflects not so much an issue of law as a desire to have this Court review the JNOV decision *de novo*.

Petitioner's argument that the Federal Circuit ignored certain of Malta's evidence and considered only two excerpts of Malta's testimony is simply incorrect, as both the District Court and the Federal Circuit considered all of the evidence thoroughly.

There is no conflict between the Federal Circuit majority application of FRCP 50 and controlling Third Circuit precedent, regarding moving for directed verdict with specificity. The notice provisions of Rule 50 were observed. There was no dissent on this issue in the Federal Circuit.

ARGUMENT

1. THE AFFIRMANCE OF JNOV WAS CONSISTENT WITH APPLICABLE PRECEDENT AND WAS NOT BASED ON RETROACTIVELY APPLIED NEW PROCEDURAL CASE LAW.

The affirmance of JNOV was based on the precedent of this Court and the Federal Circuit. Petitioner's premise that new procedural case law was retroactively applied in this case is incorrect and without support in the record. Although the Federal Circuit decision referred to *Lear Siegler* as applicable authority, the majority opinion affirming JNOV was ultimately grounded in the tenets of *Graver Tank* (as explained by the Federal Circuit in *Nestier*). Specifically, it was based on failure of substantial *evidence* to prove that each prong of the *Graver Tank* equivalency test was met. The majority ruling is not limited to the *Lear Siegler* requirement for "particularized testimony," but rather was based upon the absence of sufficient evidence to support the *Graver*

Tank test for equivalence. The majority ruling is supportive of *Graver Tank*, and no issue of law is presented which could be a basis for granting certiorari.

The issue in a nut shell was whether the plaintiff at trial had presented sufficient evidence from which the jury could find that the accused handbells had the equivalent of the claim limitation dealing with buttons. Pursuant to agreement by counsel for both sides, the jury was charged both as to the *Graver Tank* requirement that the accused handbells perform substantially the same function in substantially the same way so as to obtain substantially the same results as the claimed invention; and that infringement under the doctrine of equivalents requires that each and every element of an asserted claim or the equivalent of the element must be present in the accused device.[7] A-6. Thus, under the applicable law, the proper standard of review both for the trial court and for the appellate court was whether there was sufficient evidence that the accused device had the equivalent of the buttons limitation, such that a reasonable jury could so find. The District Court judge and the Court of Appeals majority found that there was a failure of such substantial evidence.

The trial court, in its opinion granting JNOV, did not apply new procedural principles retroactively. The District Court opinion noted "This discrete and specific focus on function, means and result is explicitly required by *Graver Tank*." A-64. The opinion further noted that both *Lear Siegler* and *Nestier* stated that these rules were not new, and that *Lear Siegler* merely repeated in so many words the explication of *Nestier*. A-64, at footnote 7. These principles were known prior to the trial of this case, and thus there was no retroactive application to *Malta*. In *Lear Siegler*, for example, the Federal Circuit observed that counsel for defendant, in seeking JNOV in the trial court, argued that *Nestier*

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7. See *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931 (*in banc*), *cert. denied*, 485 U.S. 961 (1988).

"required that LSI explicitly delineate to the jury, through testimony and argument, equivalence of function, means, and result. . . ." 873 F.2d 1422, 1425. Thus, *Nestier* was relied upon by trial counsel following a jury verdict and judgment entered in August 1987, which was almost a year prior to the trial in this case. The District Court was entitled to, and indeed required to follow the opinions of the Federal Circuit, a specialized appellate court established by Congress for the purpose of interpreting the patent law.

The ruling of the Federal Circuit from which *certiorari* is sought does not depend upon the *Lear Siegler* "particularized testimony" language. At all times, the majority opinion refers to a lack of evidence. The ruling is not phrased in terms of a failure of "particularized testimony," and is not so limited. It is not a new procedural rule, since it simply requires evidence in accordance with longstanding authority, particularly *Graver Tank*, but also *Pennwalt* and *Nestier*.[8] As an illustration of this, reference is made to Judge Michel's concurring opinion where he states:

> I submit that requiring separate, explicit and substantial comparison *evidence* of each of the three *Graver Tank* aspects of equivalency has been the law at least since 1950 when *Graver Tank* itself was decided. If *Lear Siegler* added gloss thereto, it was on peripheral points *not dispositive* here, such as the requirement of "testimony" (as opposed to other forms of evidence) and "linking argument" (which, being only attorney assertions, is of course not evidence at all). (emphasis added) A-23

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8. In *Nestier*, the Federal Court stated: "At no time did Nestier's attorneys or witnesses present evidence which was explicitly related to the jury in the *Graver Tank* terms of equivalence of functions, means, and result. Analysis of equivalence involves those three factors, and a jury cannot be expected to be able to make any such determination absent evidence and argument concerning the doctrine and each of its elements." 738 F.2d at 1579.

Thus, the *Lear Siegler* language concerning testimony, contrasted to evidence, was specifically not dispositive in this case. Further, as the majority opinion stated: "*Lear Siegler* merely repeats in so many words the explication of *Nestier*. *Nestier* was decided in 1984. This case was not tried until 1988. There has been no retroactive application of law." A-15. The *Nestier-Lear Siegler-Malta* cases make explicit what has always been required by *Graver Tank*, i.e., that there has to be substantial evidence presented to a jury with respect to the three *Graver Tank* elements of equivalence.

2. THE GRANT OF JNOV WAS PROPERLY AFFIRMED BASED ON THE PETITIONER'S FAILURE TO PRESENT SUBSTANTIAL EVIDENCE UNDER THE PRINCIPLES OF *GRAVER TANK*.

The Petitioner simply failed to present sufficient evidence of infringement under the principles of *Graver Tank*. Petitioner, commencing at page 16 of its petition, emphasizes evidence adduced at trial in addition to testimony, and urges that such evidence was ignored, thereby assertedly placing the majority in conflict with *Graver Tank*. A review of the majority opinion as well as the concurring opinion makes it clear that no evidence was ignored, and that this case was not decided on the basis of "particularized testimony," but rather on the basis of insubstantial evidence, and in particular failure of comparison evidence.

Petitioner's suggestion that Malta's "extensive real and demonstrative evidence" was ignored is unsubstantiated. What the majority opinion did was closely consider the evidence to which *Malta* had principally pointed. A-11. Illustration of the insufficiency of the most pertinent evidence does not carry with it a suggestion that other evidence was ignored. Moreover, a careful analysis of the "extensive real and demonstrative evidence" reveals that none of it was relevant to the real issue of equivalence to the claim limitation. Note that

the Petition never deals with the claim language concerning the buttons way of defining different degrees of hardness; indeed, the Petition's only references to buttons are submerged in footnote 18.

Petitioner's footnote 18 illustrates a misapplication of the *Graver Tank* comparison test. Petitioner submits that there is evidence that buttons of differing hardness provide the same way of producing bell tones as using striking surfaces of differing hardness. However, this reverses the test. The reference is the claim language, and the requirement – totally ignored by Petitioner – was to show how the accused strike surfaces compared to the specific language of the buttons limitation. There was simply no such comparison evidence. The evidentiary requirement at trial was not to prove that buttons provided different degrees of hardness; but rather that the accused handbells provided different degrees of hardness in the "buttons" way specified by the claim language.

Petitioner argues that the Federal Circuit majority ignored other testimony by Mr. Malta respecting comparison of the "way" handbell striking surfaces and striking buttons of differing hardness produced bell tones of differing hardness. Note that this characterization, presented at page 17 of the Petition, again misstates the comparison required under *Graver Tank*, since it suggests only that the claimed feature have the characteristics of the accused feature, and not *vice versa*. The evidence asserted by Petitioner in footnote 19 (EA-5 through EA-11) demonstratively makes no suggestion of how the accused clapper surfaces could have the equivalent characteristics of the claimed buttons limitation, but only suggests a conclusory assertion of correspondence. Petitioner had no bell at trial that had real buttons as per claim 3, from which a comparison could be made. The handbell demonstrated by Malta, referenced at page 18 of the Petition, contained the generic striking surfaces embodiment of claim 2 and

Figure 3 of the patent (EA-15), not the claim 3 buttons embodiment illustrated in Figure 7. EA-15.[9]

The Federal Circuit majority opinion properly found insubstantial evidence relating to the *Graver Tank* "way" comparison. To have upheld the jury verdict would have violated the *Graver Tank* requirement of proving that there was a substantially similar "way."

Petitioner's argument is simply re-argument of the evidence. Petitioner's argument is made without any effort to relate it to the claim language in issue, which is the necessary reference point for a determination of equivalence. It is submitted that such argument presents no legal issue and falls far short of the special and important reasons for a grant of a Petition for Writ of Certiorari.

3. THE DISTRICT COURT AND THE FEDERAL CIRCUIT PROPERLY FOLLOWED FEDERAL RULE OF CIVIL PROCEDURE 50.

The Courts below properly held that the principles of Federal Rule of Civil Procedure 50 were observed. The authority urged by Petitioner, *Abraham v. Pekarski,*[10] is at best inapposite.[11] Here, Schulmerich specified non-infringement of the two patent claims in issue. With respect to appealed claim 3, the trial judge and counsel were well aware that the only issue was that of the evidence concerning equivalence of the buttons limitation. As stated in the majority opinion, it was clear

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9. The exhibits presented as EA-3 and EA-4 are not accurate representations of any exhibit actually introduced into evidence.

10. 728 F.2d 167, 171 (3rd Cir. 1984), *cert. denied*, 467 U.S. 1242 (1984).

11. As seen clearly from the reported case, liability and damages issues had been bifurcated. The case came to the Third Circuit on a motion for JNOV as to *punitive damages*. Following the close of the case on *liability*, defendants moved for directed verdict. The Third Circuit held that in referring only to "remaining claims," the motion was plainly addressed only to liability issues, and not the issue of punitive damages. Thus, the case in no way stands for the proposition for which Petitioner submits it.

that the trial judge (and the parties) had no doubt of the grounds stated in support of the motion for directed verdict. (A-9). The requirement of Rule 50 is one of notice, and such notice was fairly given. No issue of law is presented; only Petitioner's desire for a review of the trial court's judgment.[12] There was no dissent below on this question.

CONCLUSION

The Petition should be denied inasmuch as it presents no decision in conflict with a decision of another U.S. Court of Appeals; no conflict with any applicable decision of the Supreme Court; and no departure from the accepted and usual course of judicial proceedings such as to call for the exercise of the Supreme Court's power of supervision.

Respectfully submitted,

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JOHN P. DONOHUE, JR.
WOODCOCK WASHBURN KURTZ
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One Liberty Place – 46th Floor
Philadelphia, PA 19103

DATE: May 20, 1992

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12. Additionally, it is noted that *Malta* failed to raise any objection concerning specificity in response to Schulmerich's Motion for JNOV, whereby the objection was properly dismissed. *Cox v. City of Freeman, Missouri*, 321 F.2d 887, 891 (8th Cir. 1963); *See also* 9 C. Wright and A. Miller, *Federal Practice and Procedure*, 2533, p. 582 and n. 88 (1971). Malta further failed to object to the motion for directed verdict when made during trial, on any specificity grounds.

91-1705

Supreme Court, U.S.
FILED
MAY 26 1992
CLERK

No.____

IN THE

SUPREME COURT OF THE UNITED STATES

October Term, 1991

JACOB H. MALTA, *et al.*,

Petitioners

v.

SCHULMERICH CARILLONS, INC., *et al.*,

Respondents

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

EXHIBIT APPENDIX TO THE PETITION FOR WRIT OF CERTIORARI

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TABLE OF CONTENTS

Page

Reduced Size Reproduction of Malta Trial Exhibit P-51 (Photograph of Disassembled Bells) EA-1

Reduced Size Reproduction of Malta Trial Exhibit P-51A (Photograph of Disassembled Bells With Overlay)..... EA-2

Reduced Size Reproduction of Malta Trial Exhibit P-52 (Photograph of Disassembled Clappers)..... EA-3

Reduced Size Reproduction of Malta Trial Exhibit P-52B (Photograph of Disassembled Clappers With Overlay) EA-4

Reduced Size Reproduction of Malta Trial Exhibit P-44 Entitled "Claim 3—Bell" EA-5

Reduced Size Reproduction of Malta Trial Exhibit P-45 Entitled "Claim 3—Clapper Assembly" EA-6

Reduced Size Reproduction of Malta Trial Exhibit P-46 Entitled "Claim 3—Clapper Shaft" EA-7

Reduced Size Reproduction of Malta Trial Exhibit P-47 Entitled "Claim 3—Clapper Member" EA-8

TABLE OF CONTENTS—*(Continued)*

Page

Reduced Size Reproduction
of Malta Trial Exhibit P-48
Entitled "Claim 3—Striker Assembly" EA-9

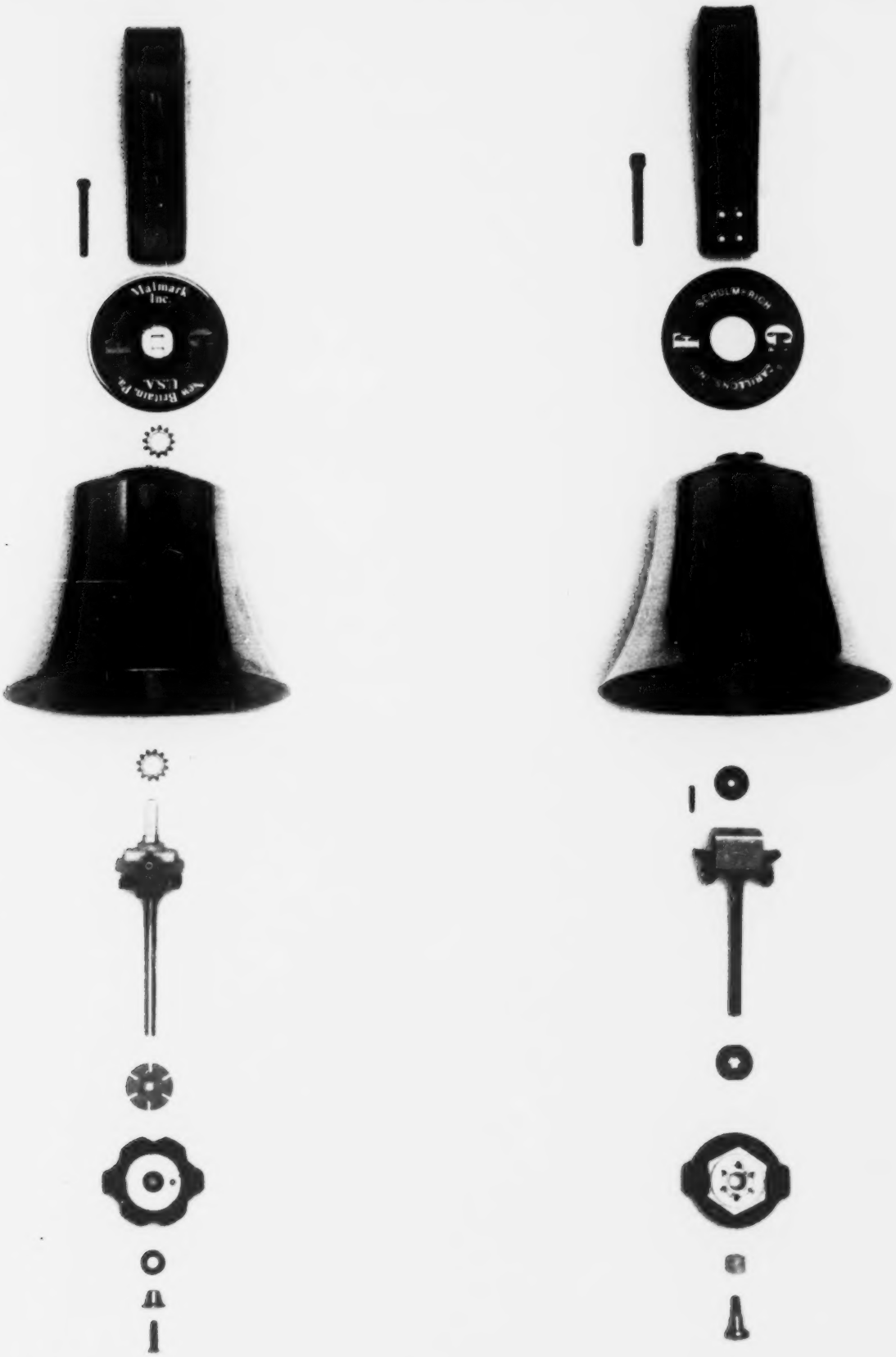
Reduced Size Reproduction
of Malta Trial Exhibit P-49
Entitled "Claim 3—Coacting Means"..... EA-10

Reduced Size Reproduction
of Malta Trial Exhibit P-50
Entitled "Claim 3—Detent Means"..... EA-11

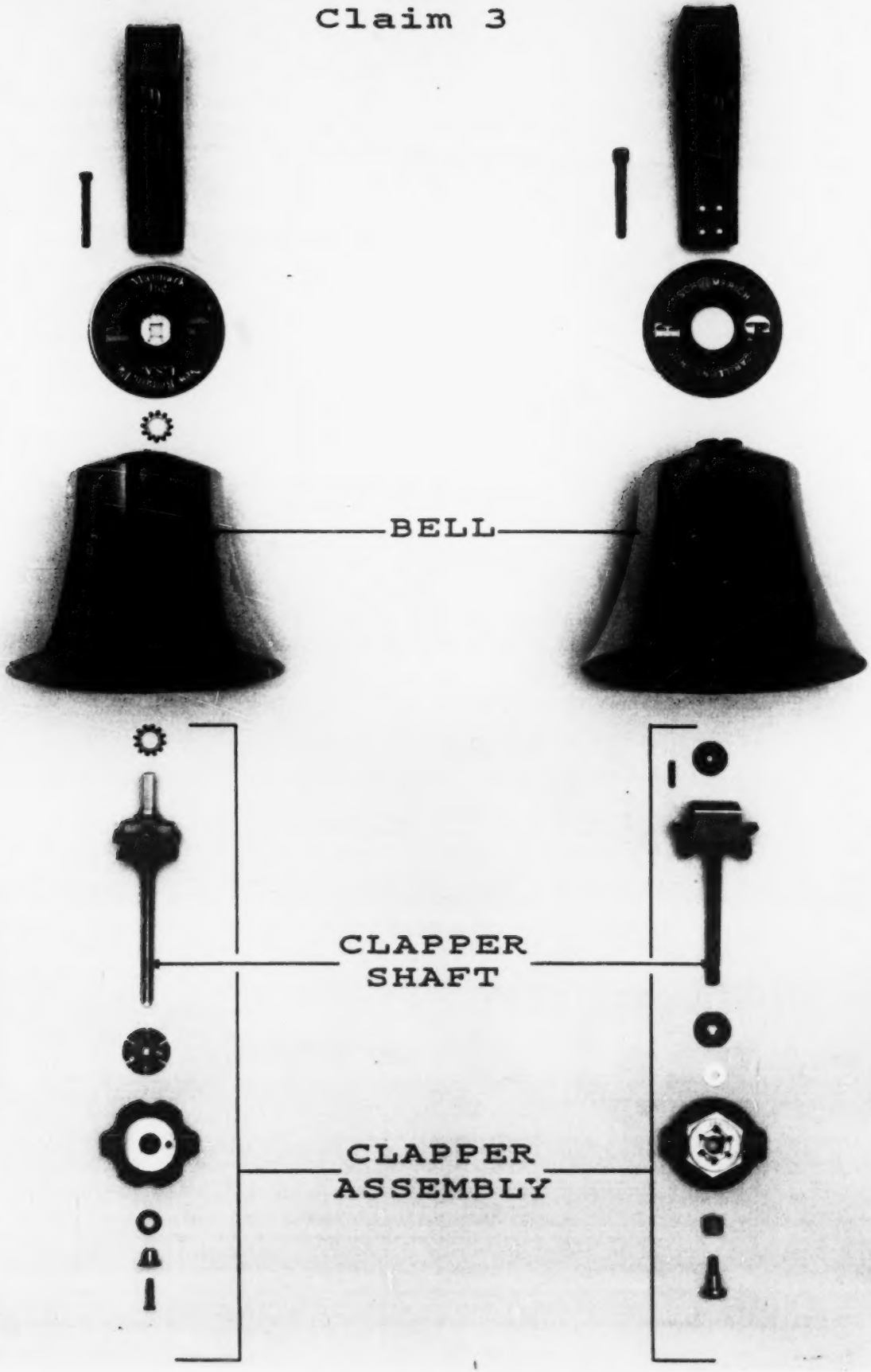
Stop Frame From Malta's
Trial Exhibit 70—Videotape
of Handbell Choirmembers
Adjusting Handbells "On the Fly" EA-12

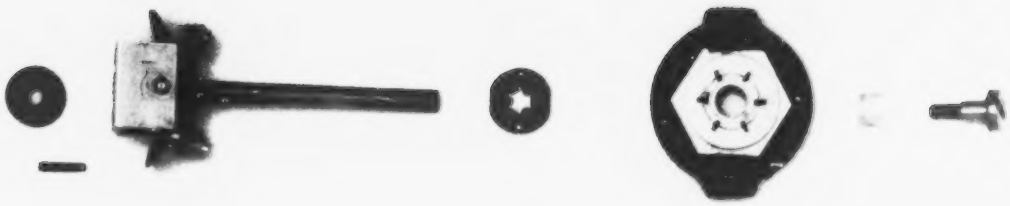
Page of Malta's U.S. patent
3,941,082 with claims
2 and 3 Underlined in Color..... EA-13

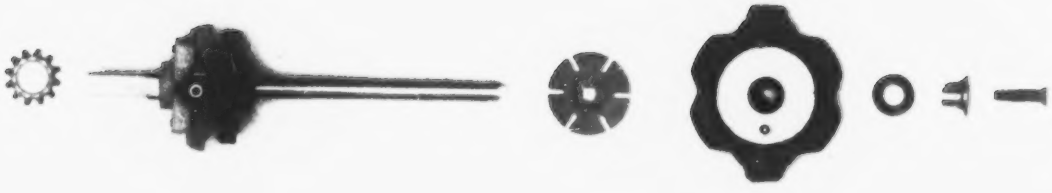
Malta's U.S. patent 3,941,082 ..... EA-14


Malmark
Inc.
Made in U.S.A.

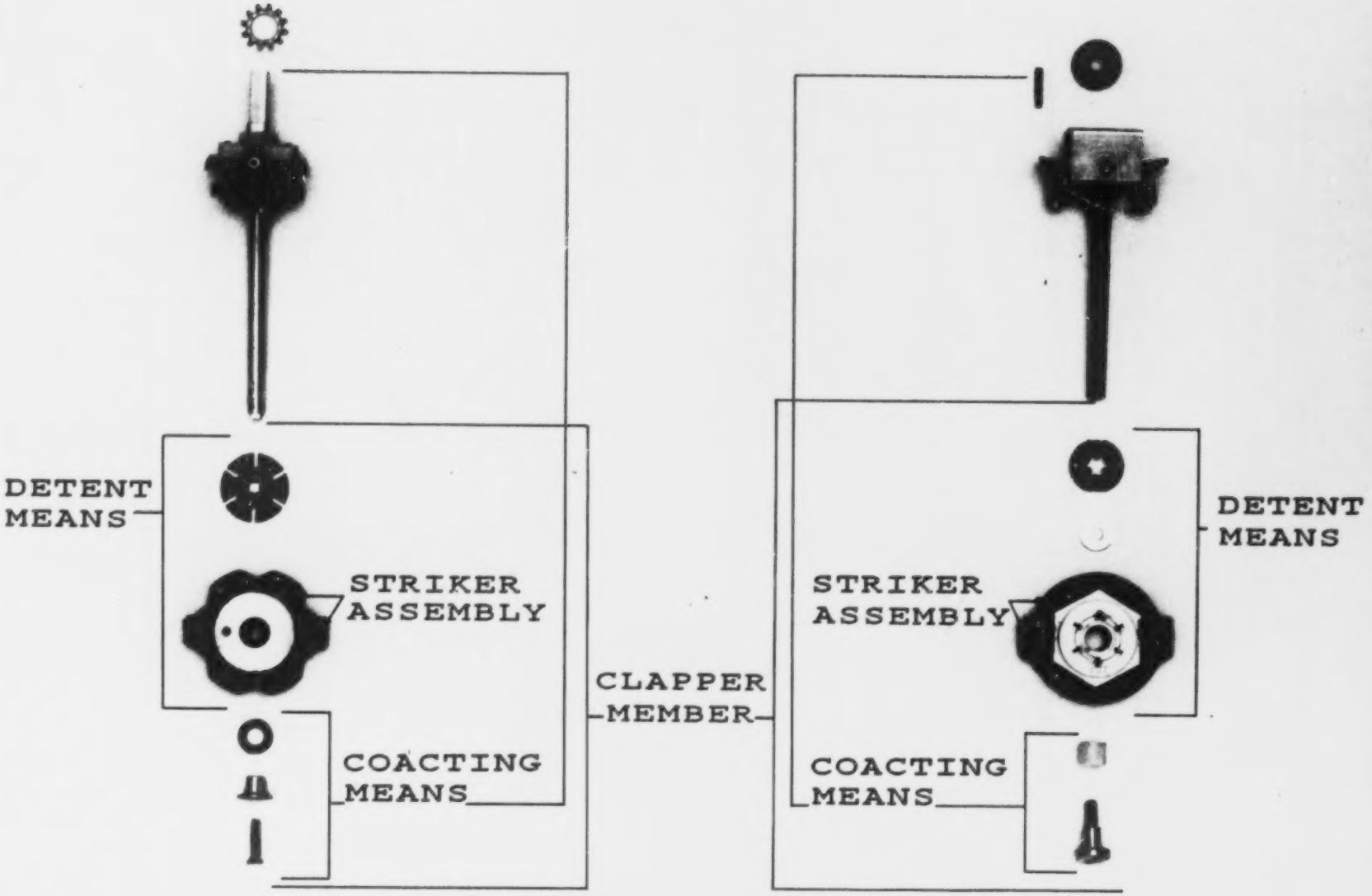
Claim 3



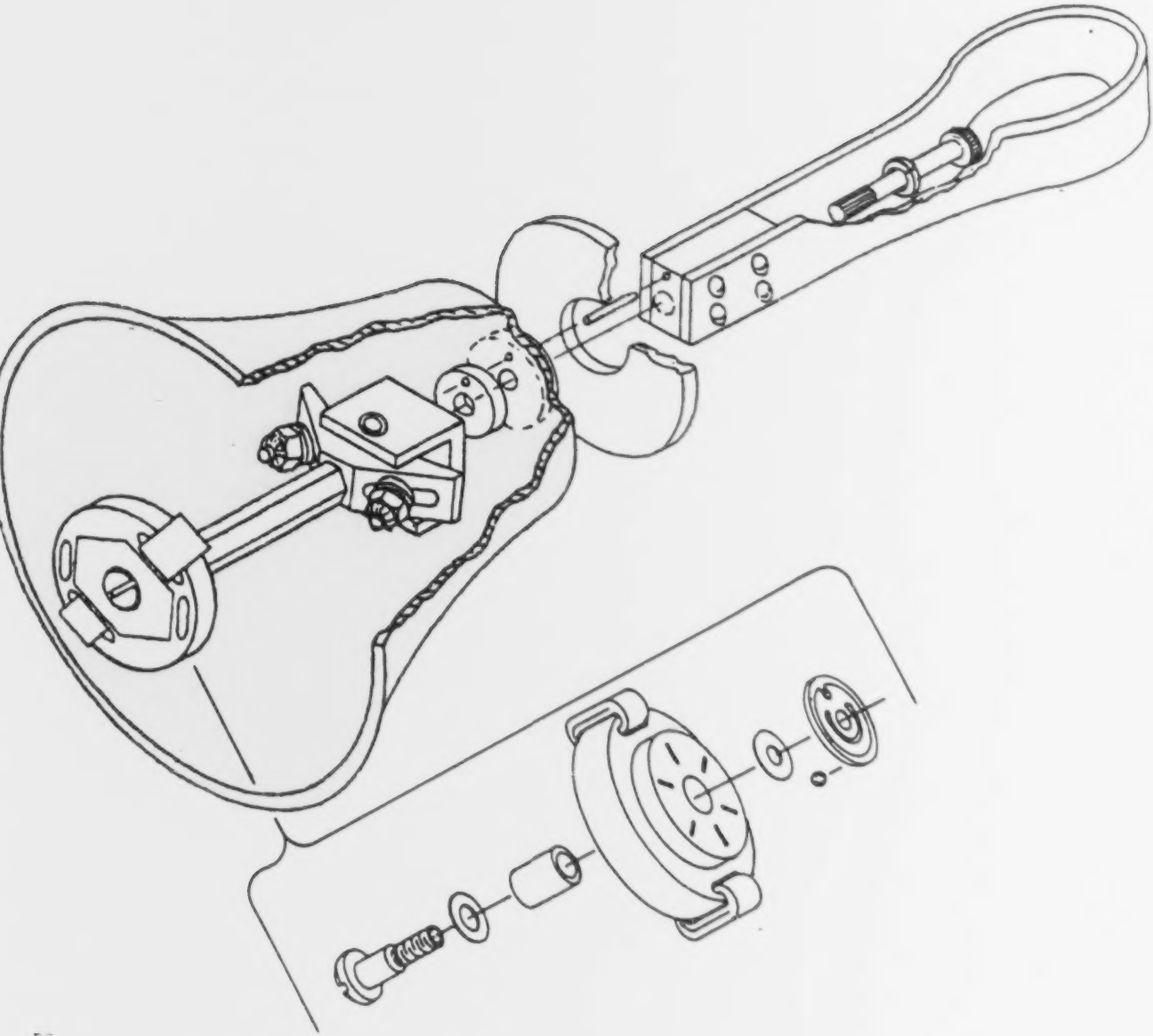




Claim 3

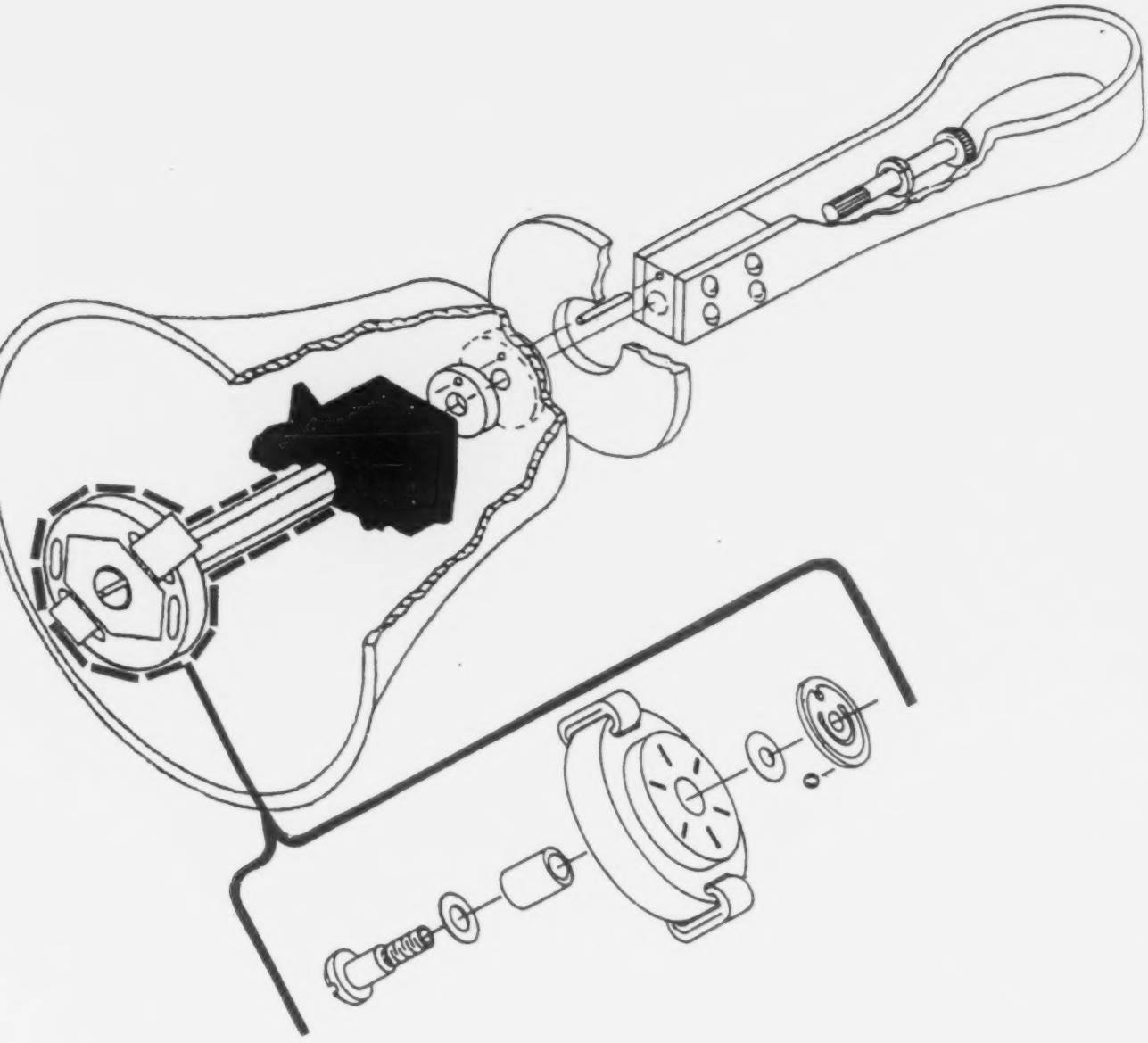

DETENT MEANS
STRIKER ASSEMBLY
COACTING MEANS
CLAPPER MEMBER
DETENT MEANS
STRIKER ASSEMBLY
COACTING MEANS

Claim 3 -- BELL



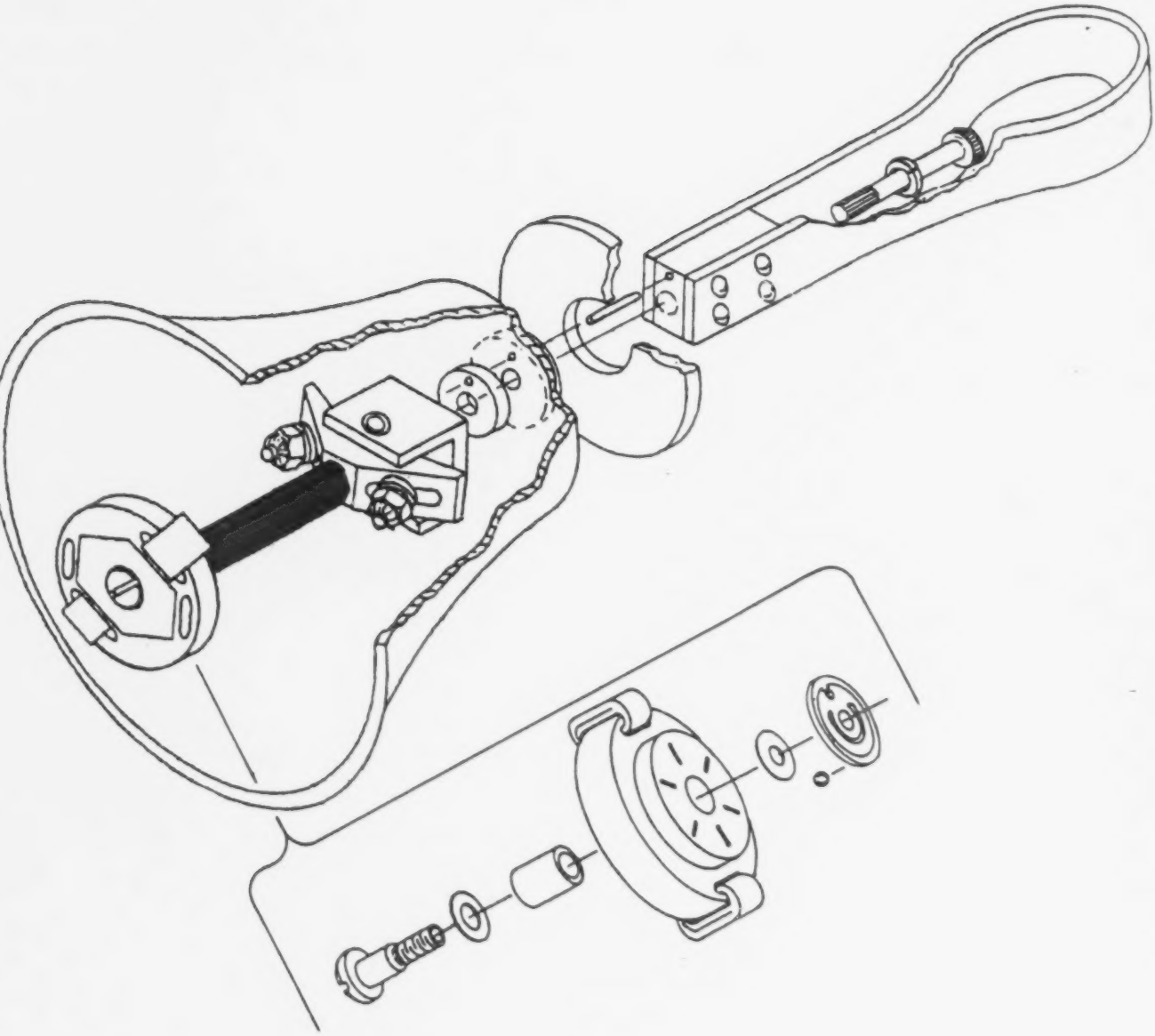
A BELL HAVING A GENERALLY CLOSED END ...

laim 3 -- CLAPPER ASSEMBLY



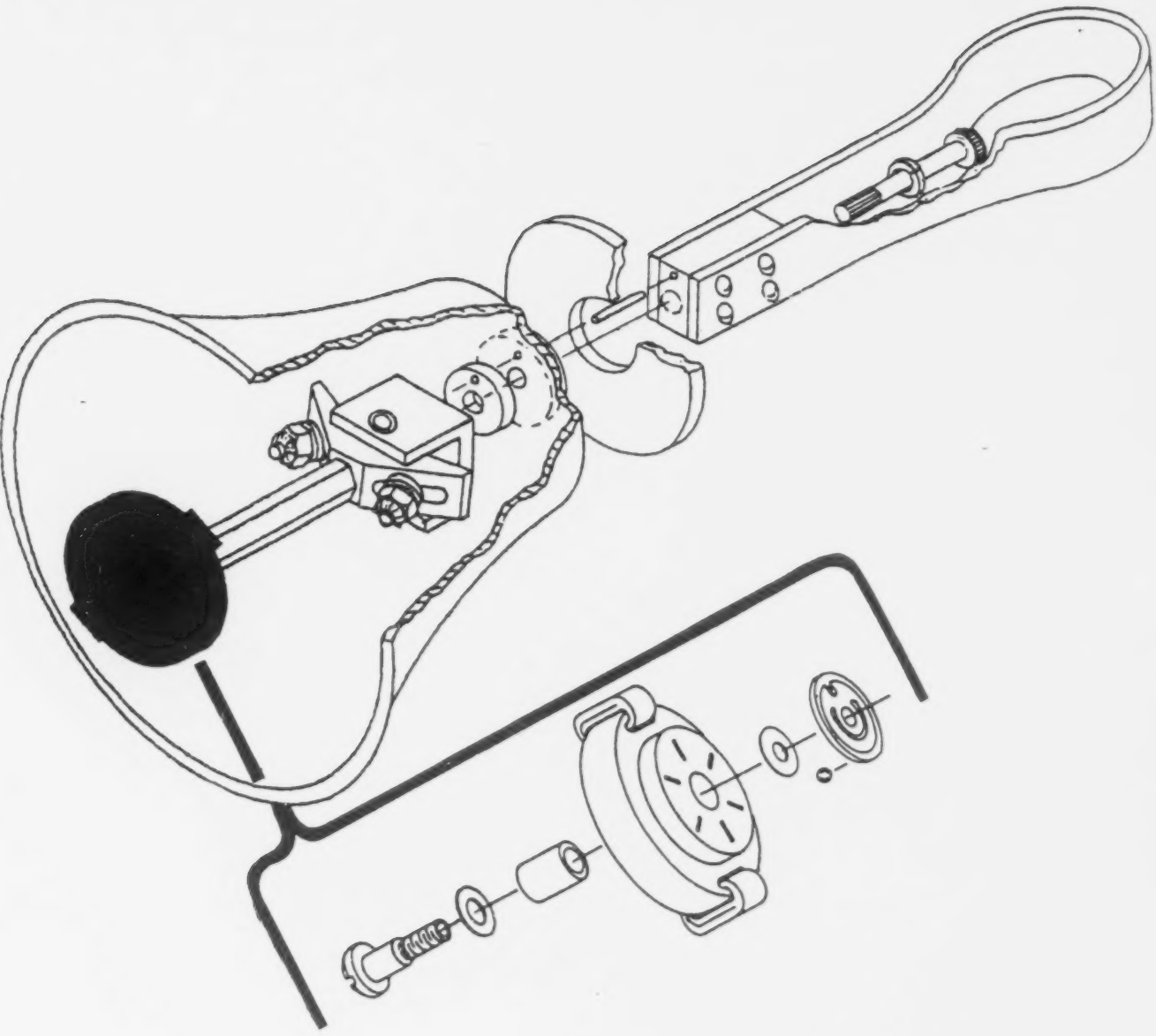
A CLAPPER ASSEMBLY ADAPTED TO BE REMOVABLY CARRIED WITHIN SAID BELL AND CENTRALLY OF THE CLOSED END THEREOF ...

Claim 3 -- CLAPPER SHAFT



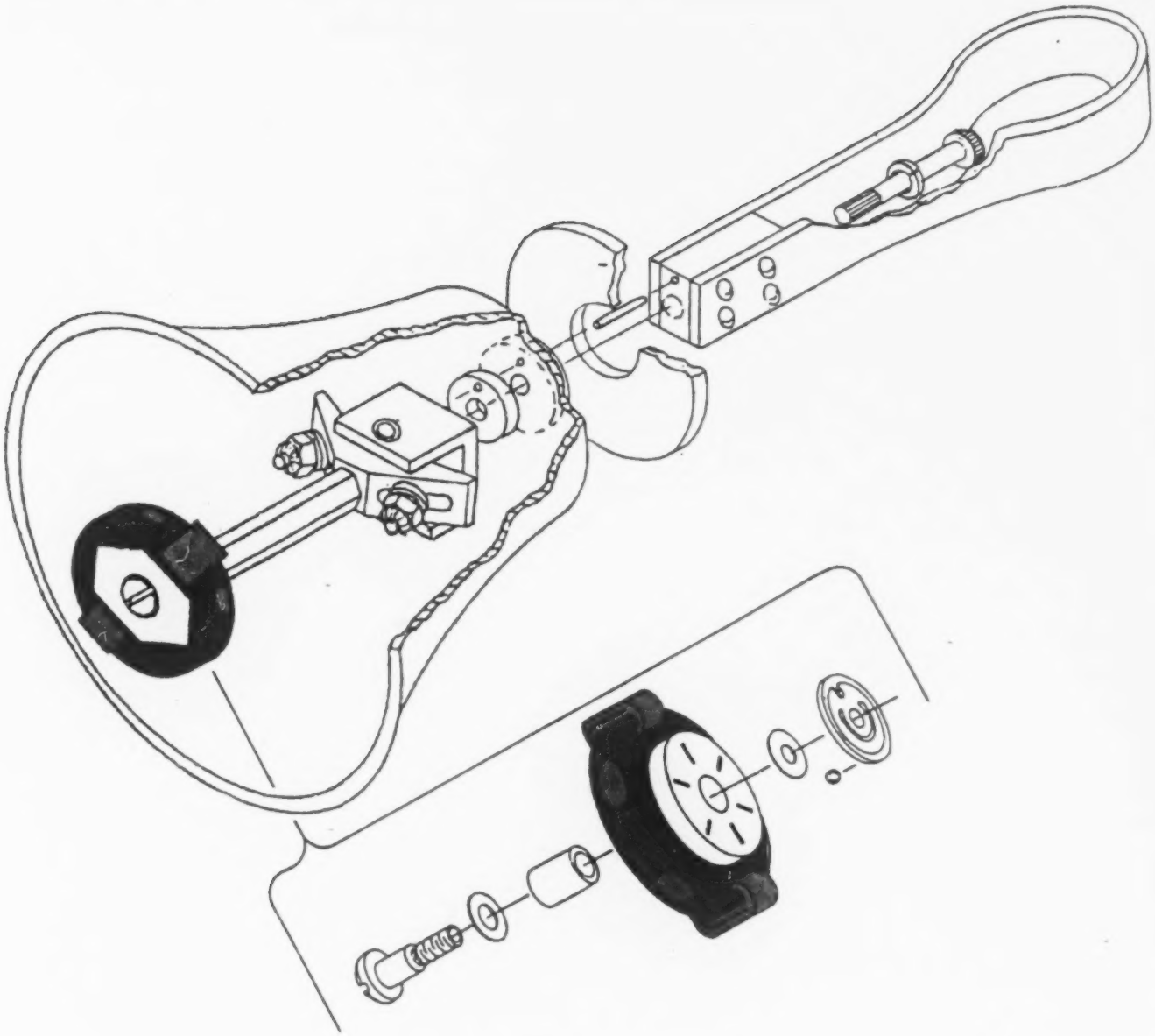
A CLAPPER SHAFT HAVING ONE END PIVOTALLY ASSOCIATED CENTRALLY OF THE CLOSED END OF SAID BELL AND CARRYING A CLAPPER MEMBER AT ITS FREE EXTREMITY ...

Claim 3 -- CLAPPER MEMBER



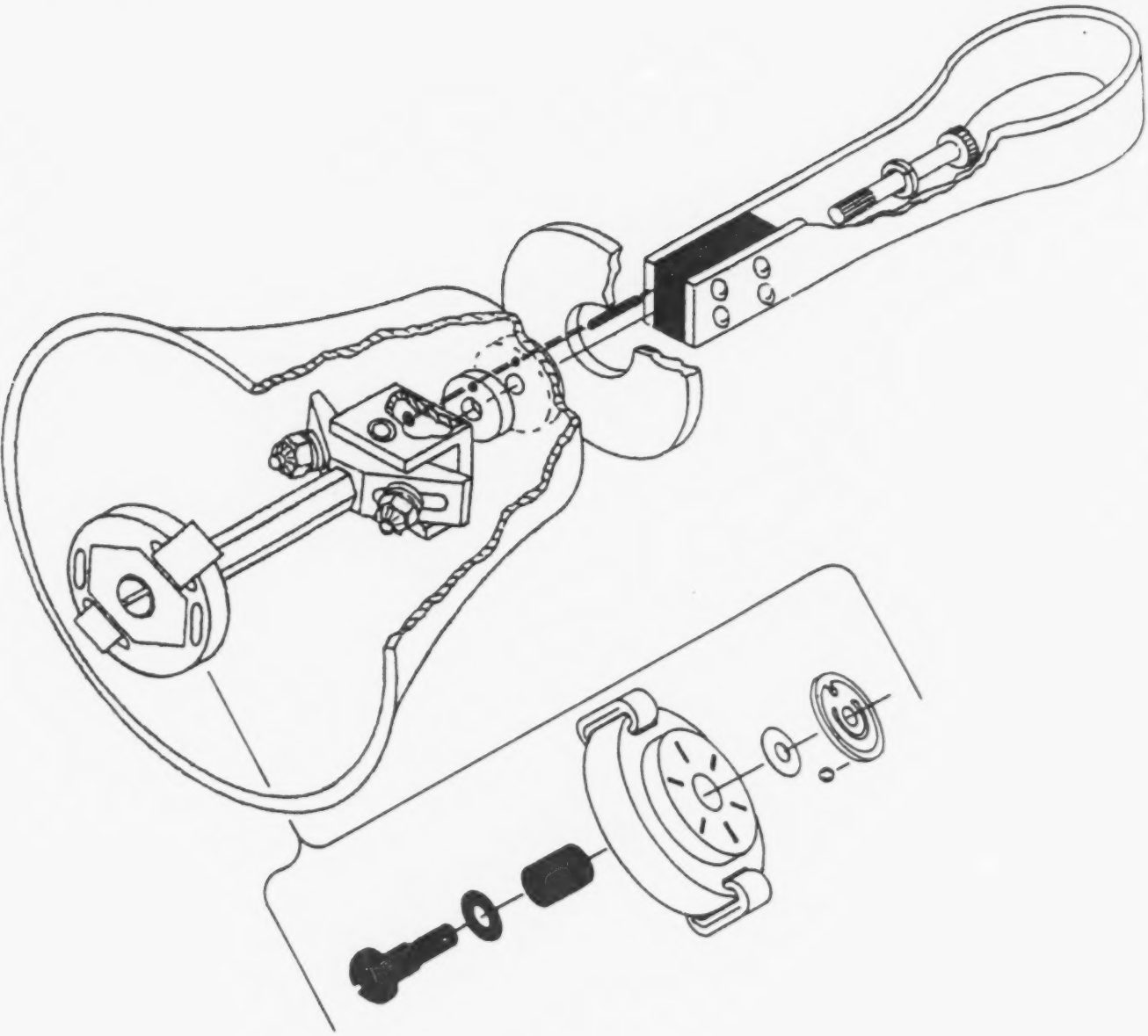
SAID CLAPPER MEMBER COMPRISING ...

Claim 3 -- STRIKER ASSEMBLY



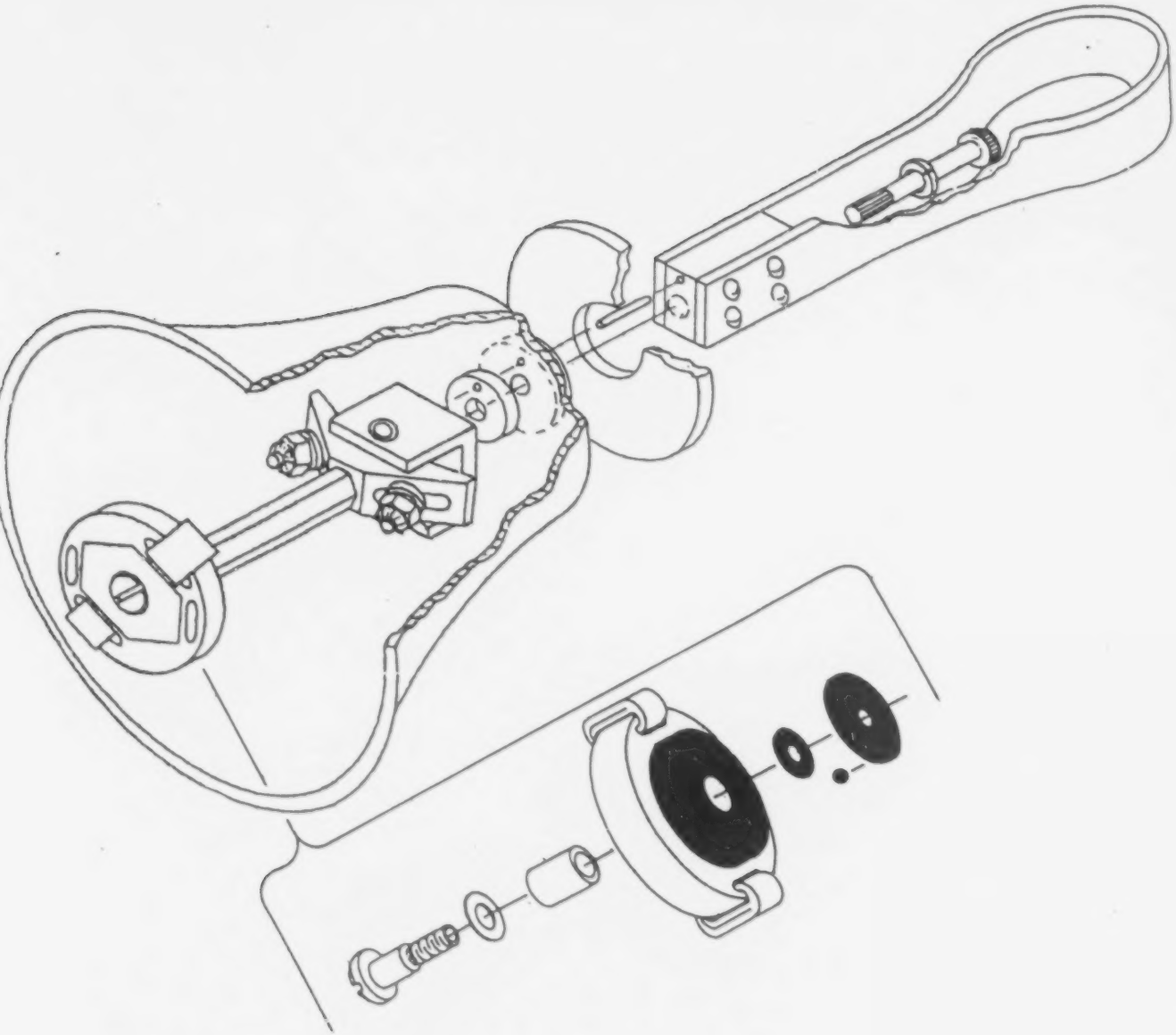
SAID CLAPPER MEMBER COMPRISING A GENERALLY CIRCULAR STRIKER ASSEMBLY ROTATABLY POSITIONED SUBSTANTIALLY NORMAL TO SAID CLAPPER SHAFT AND INCLUDING A PLURALITY OF STRIKING BUTTONS POSITIONED IN OPPOSED PAIRS AROUND THE OUTER PERIPHERY THEREOF AND WHEREIN EACH PAIR OF BUTTONS HAS A DIFFERENT DEGREE OF HARDNESS ...

Claim 3 -- COACTING MEANS



MEANS ON SAID CLAPPER ASSEMBLY COACTING WITH SAID ROTATABLE STRIKER ASSEMBLY FOR PERMITTING ROTATION OF SAID STRIKER ASSEMBLY RELATIVE TO SAID CLAPPER SHAFT FOR SELECTIVELY POSITIONING DESIRED PAIRS OF BUTTONS IN STRIKING RELATION TO SAID BELL ...

Claim 3 -- DETENT MEANS



AND DETENT MEANS COOPERATING WITH SAID ROTATABLE STRIKER FOR RELEASABLY HOLDING SAID STRIKER ASSEMBLY IN ANY PRESELECTED POSITION.

2. A handbell comprising in combination: a bell having a generally closed end; a clapper assembly adapted to be removably carried within said bell and located centrally of the closed end thereof, said clapper assembly comprising a clapper shaft having one end pivotally associated centrally of the closed end of said bell and carrying a clapper member at its free extremity, said clapper member comprising a generally circular striker assembly positioned substantially normal to said clapper shaft and including at least three opposed pairs of surface portions wherein each of said pairs has a different degree of hardness and wherein said assembly is rotatable relative to said clapper shaft for selectively positioning desired surface portions in striking relation to said bell; detent means for said striker assembly; and indexing means on said handle and said clapper assembly cooperating with said detent means for releasably maintaining said striker assembly in any pre-selected position relative to said clapper shaft.

3. A handbell comprising in combination: a bell having a generally closed end; a clapper assembly adapted to be removably carried within said bell and centrally of the closed end thereof, said assembly comprising a clapper shaft having one end pivotally associated centrally of the closed end of said bell and carrying a clapper member at its free extremity, said clapper member comprising a generally circular striker assembly rotatably positioned substantially normal to said clapper shaft and including a plurality of striking buttons positioned in opposed pairs around the outer periphery thereof and wherein each pair of buttons has a different degree of hardness; means on said clapper assembly coacting with said rotatable striker assembly for permitting rotation of said striker assembly relative to said clapper shaft for selectively positioning desired pairs of buttons in striking relation to said bell; and detent means cooperating with said rotatable striker for releasably holding said striker assembly in any preselected position.

BEST AVAILABLE COPY

United States Patent

Malta

[11] 3,941,082

[45] Mar. 2, 1976

[54] HANDBELL

[76] Inventor: Jacob H. Malta, 207 Decatur St., Doylestown, Pa. 18901

[22] Filed: May 16, 1974

[21] Appl. No.: 470,467

[52] U.S. Cl. 116/171; 116/149

[51] Int. Cl.² G10K 1/06; G10K 1/36

[58] Field of Search 116/171, 148, 149, 167, 116/155, 131; 73/323

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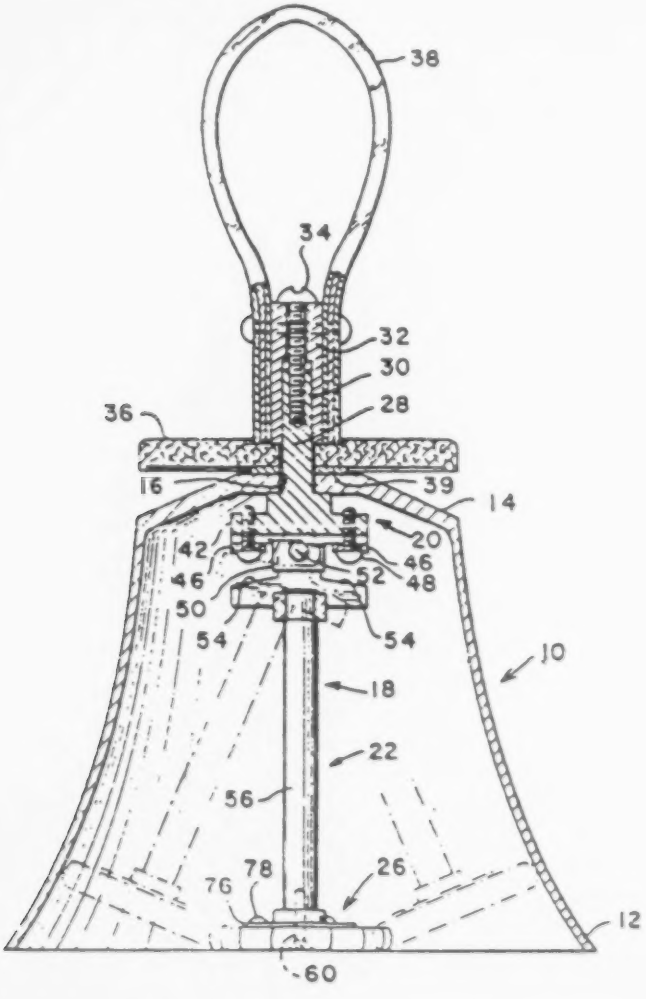
Primary Examiner—Richard C. Queisser
Assistant Examiner—Daniel M. Yasich
Attorney, Agent, or Firm—John T. Marvin

[57] ABSTRACT

A handbell including an improved clapper assembly that is adjustable with respect to the force required to cause it to swing into strike contact with the bell and is independently adjustable to vary the tonal quality of its strike, whereby a variety of affects, including raw and muted sounds, may be obtained from a given bell through manual adjustment of the clapper which is possible during the course of playing the bell. Additional improvements reside in the specific construction of the adjustments and the means for indexing the position of the bell handle with respect to the clapper assembly.

6 Claims, 7 Drawing Figures



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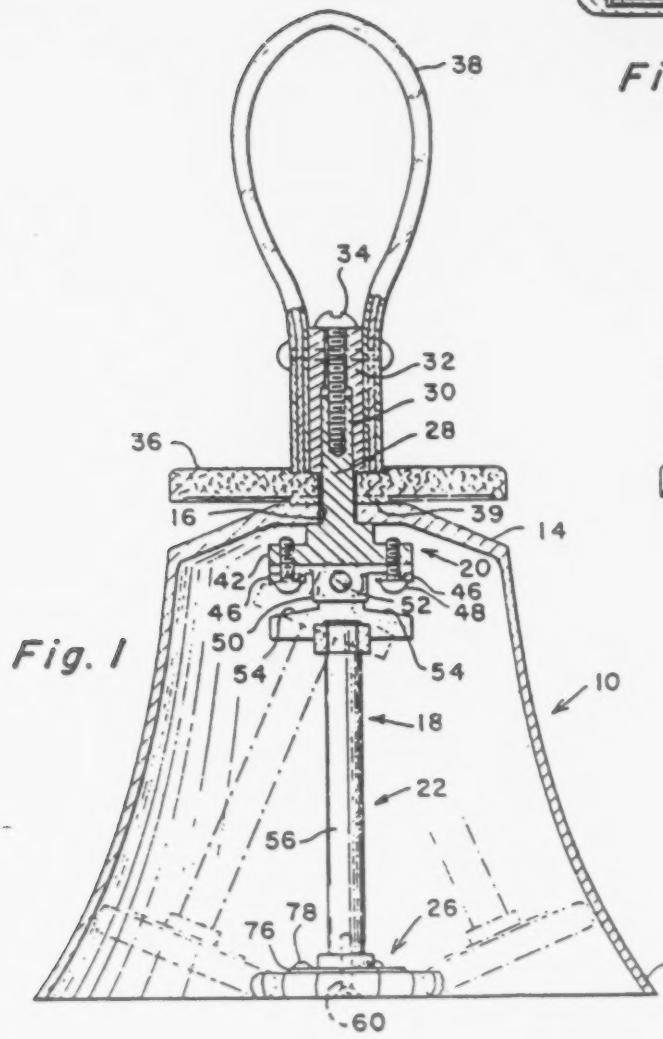

Fig. 1

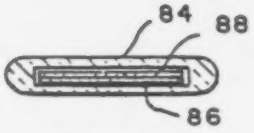

Fig. 6

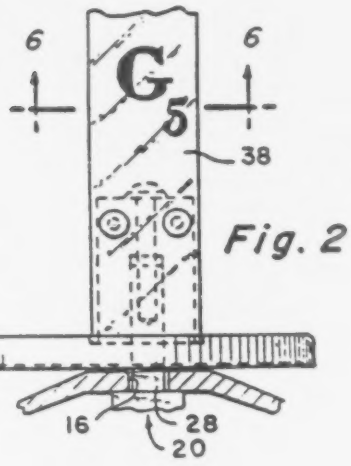

Fig. 2

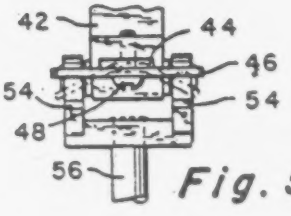

Fig. 5

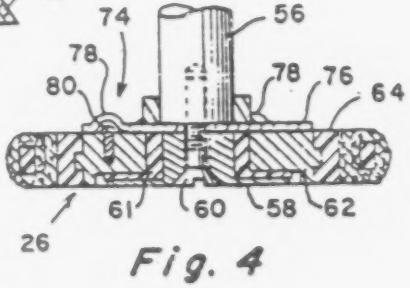

Fig. 4

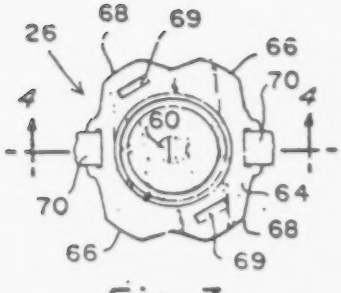

Fig. 3

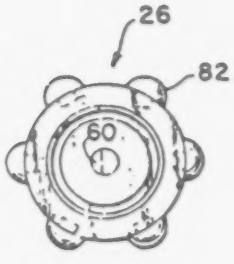

Fig. 7

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HANDBELL

This invention relates to handbells and is particularly concerned with handbells that are manually adjustable with respect to the tonal qualities thereof.

Handbells have been in general use for many years and have always been carefully fabricated and tuned so that different bells will produce different notes of the musical scale. A chorus of players using a plurality of tuned bells may render any given tune which falls within the range of notes offered by the specific bells. Handbell choruses are increasing in popularity and the control of the tonal quality of handbells is becoming of greater importance as the sophistication of the effort increases. To date, some degree of tonal control has been offered but it has always required a tooled adjustment of the bell ringing mechanism. In the present invention, I have provided an improved handbell of simple design which includes a clapper assembly that is adjustable with respect to (1) the force required to strike the bell, and (2) the tonal qualities emitted by the bell after it is struck. This last adjustment is capable of manual modification during the actual use of the bell and may be likened to the pedals on a piano whereby all or portions of a musical selection may be offered in muted, semi-muted or raw tones at will. This advance in handbell design enlarges tremendously the affect of any chorus and makes the rendition of the several selections professional in character and more pleasing to the ear.

It is, therefore, one of the objects of my invention to provide a handbell with a clapper adjustment means for controlling the swinging movements of its associated clapper whereby the force required to cause the clapper to strike the bell may be varied through simple adjustment of a polyurethane snubber assembly for changing its position relative to the swinging clapper.

Another object of the invention is to provide an improved clapper assembly wherein the tonal affects created upon striking the bell may be varied at will by the manual rotation of the clapper with respect to its shaft so as to expose different, opposed striking portions for contact with the bell and wherein several opposed pairs of striking surfaces are provided, each with a different degree of hardness.

In carrying out the above object, it is a further object of the invention to provide spring actuated detent means cooperating with the clapper and its supporting shaft for detachably holding the two in any desired, predetermined position.

Another object of the invention is to provide means for maintaining the handle of the bell and its clapper assembly in aligned relation with one another as a unit regardless of their position relative to the associated handbell, whereby the usual bell tang may be eliminated.

A still further object of the invention is to provide an identifying means, or strip, for the handle of the handbell that is easily associated therewith and may be incorporated within the handle through the use of a clear plastic covering which encloses and protects the identifying strip.

Further objects and advantages will be apparent from the following description, reference being had to the accompanying drawings wherein preferred embodiments of the present invention are clearly shown.

In the drawings:

FIG. 1 shows a cross-sectional view of a preferred form of my invention.

FIG. 2 is a view of the handle assembly only taken at 90° to the position shown in FIG. 1.

FIG. 3 is a plan view of one form of clapper with arrows indicating three striking positions each of which will create a different tonal affect.

FIG. 4 is a view in section taken on line 4—4 of FIG. 3 and shows the detailed construction of one form of the adjustable clapper.

FIG. 5 is a view of the clapper shaft adjustment and pivot assembly taken at 90° to the position shown in FIG. 1.

FIG. 6 is a view in section taken on line 6—6 of FIG. 2 and showing the construction of the handle and indicia strip; and

FIG. 7 is a plan view of another form of adjustable clapper showing a plurality of opposed pairs of striking buttons.

Further objects and advantages of the present invention will be apparent, reference being had to the accompanying drawings and description wherein preferred forms are clearly shown and described.

Referring to the drawings and with particular attention to FIG. 1, 10 is a cast and machined handbell having a generally flared, open end terminating in a circumferential lip 12, together with an opposed closed end 14 which includes a centrally located circular aperture 16 therethrough. It will be seen that the bell 10 does not have the usual tang surrounding this aperture which streamlines the structure and simplifies casting and subsequent machining procedures. Such a prior art construction is shown and described in my U.S. Pat. No. 3,207,124. The elimination of this tang has been made possible by the improved structure to be described hereinafter.

The bell 10 includes a clapper assembly 18 therein which comprises a support member 20, a clapper member 22 pivotally mounted thereon, and a clapper 26 depended from the member 22. The support member 20 extends outwardly in both directions from an upwardly extending square shaft 28 which passes through the aperture 16 in the bell 10. The aperture 16 is dimensioned so as to circumscribe the square shaft 28 for holding it in non-shifting relation with the centerline of the bell 10. The upper end of shaft 28 is slidably fitted in and guided by a longitudinally extending square cavity 30 in a handle base 32 and is held thereto by a screw 34. In this assembled relation, the handle base 32 and the depended clapper assembly 18 are integrated in non-rotatable relation to one another. Interposed between the closed end 14 of the bell and the handle base is a non-metallic hand shielding disc 36 provided to prevent accidental contact between the hand of the bell ringer and the bell. The handle base 32 is rectangular in cross section and a handle 38, to be described in more detail hereinafter, is riveted to the wider side of the handle base 32 or otherwise affixed. Thus, the handle 38 and its related clapper assembly 18 are indexed as to relative position and are always held in predetermined, non-rotatable relation to one another. This condition is maintained even though the bell 10 may be rotated relative to the handle 38. This is a useful expedient since it permits periodic turning of the bell 10 relative to the handle to present new "strike" surfaces, whereby fatigue of the bell metal is lessened as is the possibility of indenting the bell surfaces at the strike areas, a condition often found in prior art bells where

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such relative movement is not possible. The addition of a metal washer 39 interposed between the shielding disc 36 and the bell 10 will facilitate turning of the bell relative to its handle 38. Otherwise, it may be necessary to loosen the screw 34 to accomplish this adjustment.

Rotation of the bell 10 relative to the handle and clapper has another distinct advantage. In all bell castings, certain portions thereof have different "wow" or "beat" surfaces as is well known in the art. These surface portions often change in character due to relaxation of the stresses through normalization of the cast metal due to aging. Under these conditions, it is often desirable to rotate the bell relative to the clapper in order to lessen these undesirable affects which is easily accomplished with the present design.

The outward extension of the support member 20 comprises a horizontally positioned portion 42 having a rectangularly shaped groove 44 extending the entire length of its downwardly facing surface, as shown clearly in FIG. 5. A pair of resilient strips 46 are carried at opposite ends of the portion 42 each bridging the groove 44. The strips 46 are held in position by screws 48 which are threaded into the portion 42. Strips 46 are formed preferably from elastomeric type polyurethane material (such as "Cyanaprene," manufactured by American Cyanamid) having a durometer reading in the order of 60 to 70 Shore D so as to be sufficiently bendable to permit flexing for adjustment purposes as noted hereinafter. Of course variations are permissible according to the specific requirements. Polyurethane is particularly useful since it is tough, fatigue resistant and wears extremely well. The exact position of the strips 46 and their relation to the portion 42 of the support member 20 is clearly depicted in FIGS. 1 and 5. The strips 46 are individually adjustable through manipulation of the screws 48, which upon tightening, draws the center portions thereof into the groove 44 whereby the free ends of the strips 46 are bent downwardly as shown in dotted lines in FIG. 5.

The support member 20 also includes a mounting portion 50 which is assembled with and fixedly positioned adjacent the center of the member 20. Of course, it may be an integral part of member 20 if desired. In either instance, the portion 50 is cross drilled adjacent its center to provide a journal for pin 52. The pin 52 pivotally carries the clapper member 22. The upper end of the clapper member 22 comprises two pairs of opposed sloping surfaces 54 wherein each pair of surfaces is positioned so as to limit the swinging movement of the member 22 by engagement with the outer ends of the limiting strips 46. This interference and engagement will be clearly seen by referring to FIG. 5. Thus, as the strips 46 are adjusted through tightening of screws 48, the free ends thereof bend downwardly for increasingly, resiliently restraining the swinging movement of the member 22. The more the strips are bent, the greater the restraint and vice versa. In this manner, the effort required to cause the clapper 26 to strike the bell may be varied in either or both directions through selective and/or differential manipulation of the adjustment screws 48.

The clapper 26 is carried on the free end of the clapper member 22 and is attached to a rod 56 which forms a part of the clapper member 22. The specific design of this clapper forms an important part of my invention. Referring to FIG. 4, one form of clapper 26 is shown wherein a central hub 58 is attached to the free end of rod 56 by means of a screw 60. The clapper 26 comprises a grouping of bonded together concentric parts with an elastomeric bushing 61 being interposed between the hub 58 and a second metallic ring 62. This in turn carries and supports an outer ring 64 shown in plan view in FIG. 3. The ring 64 may be fabricated from a relatively hard molded polyolefin type elastomer such as polyethylene or polypropylene (one such material, manufactured by Eastman Plastics, is known by the trade name TENITE) with a durometer reading in the order of .75–85 Rockwell R, which provides a striking surface 66 therearound. The striking surface of the ring 64 may offer different hardness strike surfaces 68 therearound for varying the tone. This is accomplished by drilling or molding relief portions 69 adjacent the surfaces. A third opposed pair of striking surfaces may also be provided wherein felt or some other relatively soft material is applied to opposed striking surfaces of the clapper 26. In this embodiment, the clapper will offer three opposed areas of strike, each with a different impact effect and available according to its position relative to the plane of swing of the clapper 26. Of course, more or less areas of differing impact effect may be made available and this is a matter of choice tempered by the diameter of the clapper 26.

In order to make these varying hardness portions available, I have provided an adjustable detent device 74 built into the clapper 26. This includes a spring metal disc or plate 76, non-rotatable with respect to the rod 56, with a plurality of spaced indentations 78 thereabout. These are positioned so as to correspond with the areas of varying hardness of the clapper surface. A button or detent 80 is carried by the ring 62 is positioned so as to be resiliently held within any one of the depressions 78 in the disc 76 according to its position. In this manner, the clapper 26 may be grasped by a player during the rendition of a tune, turned relative to the rod 56 and against the resistance of the detent 74 to a second or third position with a minimum of time being consumed. When this is accomplished, the bell will have a different tonal quality according to the position selected for the clapper. In this connection, all strike surfaces around the clapper 26 fall within a circle with the clapper shaft 56 as a center, whereby the distance required to cause a strike upon the bell 10 is always the same.

Another form of clapper is depicted in FIG. 7. It has all of the advantages of the one shown in FIG. 3 but varies in design, flexibility and simplicity. This embodiment includes the central hub and the same adjustment means but differs so far as the striking surfaces are concerned. Here, a plurality of applied surface buttons 82 and used spaced around the outer periphery of the clapper. Opposed pairs of buttons 82 are of the same hardness and each opposed pair is of different hardness to accomplish the same results as described in connection with the clapper shown in FIG. 3. It is apparent that other deviations may also be used without departing from the spirit of my invention which comprehends a manually adjustable clapper having a plurality of strike portions, in opposed relation and of different hardness, to selectively produce a variety of tonal effects.

Returning to the handle 38, and as mentioned heretofore, I prefer to make this of an extruded, flat tube 84 of plastic material, such as clear vinyl like VYRAM as manufactured by Monsanto. An indicia strip 86 with indicia printed or stencilled thereon may be slipped within this tube and will be clearly visible therethrough.

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The assembly may then be bent to form and riveted or otherwise affixed to the handle base 32. If desired, a metal backing strip 88 may be incorporated to back the indicia strip 86 which in this instance may be paper, etc. Either embodiment has proved to be fully satisfactory.

The handbell disclosed herein is a distinct advance in the art. The device offers adjustability not found heretofore and this flexibility in use enlarges the capabilities and life of the bell. Further, because of the manually adjustable features incorporated within the clapper, the bell is enlarged in its range of use over those of the prior art.

While the forms of embodiment of the present invention as herein disclosed, constitute preferred forms, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

I claim:

1. A handbell comprising in combination: a bell having a generally closed end; a clapper assembly removably carried within said bell centrally of the closed end thereof, said clapper assembly comprising a transversely extending, fixedly mounted pivot block; a clapper shaft having one end pivotally associated centrally of said block and including opposed surfaces sloping downwardly and away from said central pivot point, said shaft being adapted for pivotal swinging movements in one plane only with respect to said pivot block; individually adjustable, non-metallic limiting means each consisting of a generally flexible strip of resilient, polyurethane material carried by and positioned adjacent opposite ends of said pivot block, the ends of said strip positioned by said means for selectively engaging said sloping surfaces for yieldably opposing extreme pivotal, swinging movement of said clapper shaft in either direction thereof; and a clapper member carried by the free end of said clapper shaft and adapted to strike said bell during said extreme pivotal, swinging movements of said clapper shaft as adjustably opposed by said engagement with said limiting means.

2. A handbell comprising in combination: a bell having a generally closed end; a clapper assembly adapted to be removably carried within said bell and located centrally of the closed end thereof, said clapper assembly comprising a clapper shaft having one end pivotally associated centrally of the closed end of said bell and carrying a clapper member at its free extremity, said clapper member comprising a generally circular striker assembly positioned substantially normal to said clapper shaft and including at least three opposed pairs of surface portions wherein each of said pairs has a different degree of hardness and wherein said assembly is rotatable relative to said clapper shaft for selectively positioning desired surface portions in striking relation to said bell; detent means for said striker assembly; and indexing means on said handle and said clapper assembly cooperating with said detent means for releasably maintaining said striker assembly in any pre-selected position relative to said clapper shaft.

3. A handbell comprising in combination: a bell having a generally closed end; a clapper assembly adapted to be removably carried within said bell and centrally of the closed end thereof, said assembly comprising a clapper shaft having one end pivotally associated centrally of the closed end of said bell and carrying a clapper member at its free extremity, said clapper member comprising a generally circular striker assembly rotatably positioned substantially normal to said clapper shaft and including a plurality of striking buttons positioned in opposed pairs around the outer periphery thereof and wherein each pair of buttons has a different degree of hardness; means on said clapper assembly coacting with said rotatable striker assembly for permitting rotation of said striker assembly relative to said clapper shaft for selectively positioning desired pairs of buttons in striking relation to said bell; and detent means cooperating with said rotatable striker for releasably holding said striker assembly in any preselected position.

4. A handbell, comprising in combination: a bell having a generally closed end and including a centrally located aperture therethrough; a clapper assembly swingable in one plane only and adapted to be positioned within said bell; a generally strap-like directional handle external of said bell including a base portion connected with said clapper assembly through said aperture; means on said handle and said clapper assembly for positively indexing said handle in non-rotative position with respect to said clapper assembly so that the strap-like handle visually indicates the direction of swing of said clapper assembly; and clamping means associated with said handle and said clapper assembly for maintaining the two in substantially non-rotative relation with respect to said bell, whereby said handle and said clapper assembly may be rotated as a unit with respect to said bell, when desired, through disablement of said clamping means while maintaining the non-rotative relation between the handle and the clapper assembly.

5. The handbell claimed in claim 4 wherein the handle includes a rectilinear longitudinally extending cavity adjacent its base and said clapper assembly includes a mating, rectilinear, longitudinally extending stud that fits slidably within said cavity and in non-rotative relation thereto; and means for locking said handle to said clapper assembly and simultaneously clamping said bell therebetween.

6. The handbell claimed in claim 4 wherein said handle includes a square longitudinally extending cavity adjacent its base and said clapper assembly includes a mating, square, longitudinally extending stud that fits slidably within said cavity and in non-rotative relation thereto; and means for locking said handle to said clapper assembly and simultaneously clamping said bell therebetween.

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